30 a

THE

MILITARY MEDICAL

OFFICERS' LIBRARY,

ALDERSHOT.

FROM

J. W. FLEMING, F. R. C. S.

SURGEON, 37th REGIMENT.

Digitized by the Internet Archive
in 2016 with funding from
Wellcome Library

https://archive.org/details/b28708362

N 18

THE LIBRARY OF ENTERTAINING KNOWLEDGE.

Presented by

THE

MENAGERIES.

J. W. Hutchings, Esq
Duncan 37 Bishopsgate

QUADRUPEDS,

DESCRIBED AND DRAWN FROM LIVING SUBJECTS.

VOLUME THE SECOND.

LONDON:

CHARLES KNIGHT, PALL MALL EAST;

LONGMAN, REES, ORME, BROWN, & GREEN, PATERNOSTER-ROW;
OLIVER & BOYD, EDINBURGH; ATKINSON & CO., GLASGOW;
WAKEMAN, DUBLIN; WILLMER, LIVERPOOL;
AND BAINES & CO., LEEDS.

MDCCCXXXI.

LONDON :
PRINTED BY WILLIAM CLOWES,
Stamford Street.

CONTENTS.

THE MENAGERIES.——VOLUME II.

CHAPTER I.

PAGE

The Elephant of the Menageries 3

CHAPTER II.

The structure of the Elephant, exhibited in connexion with its natural habits 29

CHAPTER III.

The structure of the Elephant, exhibited in connexion with its natural habits;—continued 65

CHAPTER IV.

The Indian Elephant.—Fertility in a state of confinement.—Growth.—Modes of taking wild Elephants in Asia . 87

CHAPTER V.

The African Elephant.—Elephant hunts 121

CHAPTER VI.

Domestic employment of Elephants in the East.—Training.—Docility. 145

CHAPTER VII.

PAGE
Employment of Elephants in the East.—Travelling Sports . 164

CHAPTER VIII.

Employment of Elephants in the East, continued.—Exhibitions of Cruelty.—Processions and Ceremonials . . 188

CHAPTER IX.

Employment of Elephants in the wars of Modern Asia . 214

CHAPTER X.

Employment of Elephants in war by Alexander the Great, and his successors 241

CHAPTER XI.

Employment of Elephants in war and in triumphs by the Carthaginians and Romans 268

CHAPTER XII.

The Roman Amphitheatre 298

CHAPTER XIII.

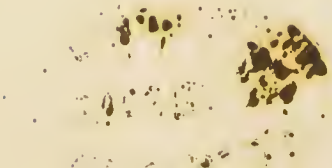
The Ivory Statues of ancient Greece and Rome . . 321

CHAPTER XIV.

The Fossil Remains of Elephants 348

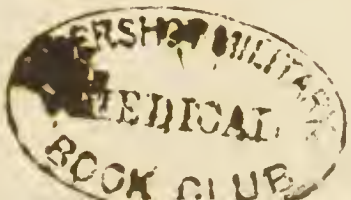
CHAPTER XV.

The Fossil Remains of Elephants.—Conclusion . . . 372



ILLUSTRATIONS.

		Page
1	The Indian elephant, *Elephas Indicus*, CUVIER	3
2	Scene exhibited at the Adelphi Theatre	14
3	Female elephant at Mr. Cross's Menagerie	21
4	Head of a female elephant in Atkins's Menagerie	22
5	Elephant of the Jardin des Plantes	23
6	Young elephants browsing	25
7	Elephant lying down	28
8	Skeleton of the elephant shot at Exeter Change	42
9	Skeleton of the horse	43
10	Section of the skull of the elephant	47
11	Sections of the trunk of the elephant	53
12 to 18	Extremity of the proboscis of the elephant, exemplifying the manner in which it grasps different objects	57 and 58
19	An elephant pulling down the branch of a tree	59
20	Front view of an elephant's head, with the trunk turned, shewing the construction of the mouth	60
21	Elephants drinking	61
22	Elephant swimming	64
23	Medal of Tranquillina, wife of Gordian	83
24	Surfaces of the cheek teeth of the Indian and African elephant	84
25	Skull of the Indian elephant	85
26	Skull of the African elephant	86
27	Female elephant and young one sucking	90
28	Wild elephant captured by means of decoy female elephants	106
29	Wild elephant left after having been bound	108
30	Elephant harnessed in a keddah. From an original drawing by Mr. Corse Scott, engraved in Brewster's Encyclopædia	118
31	African elephant. *Elephas Africanus*, CUVIER	120
32	Enraged elephant destroying his driver	149
33	Warren Hastings' elephant	162
34	Method of descending from an elephant by a rope	167
35	Hunters in a howdah	179
36	Tiger at bay	181
37	Tiger springing	183
38	Elephant killing a tiger	185
39	Elephant attacked by a rhinoceros	186
40	Elephant killing a horse	194
41	Elephant baited	196



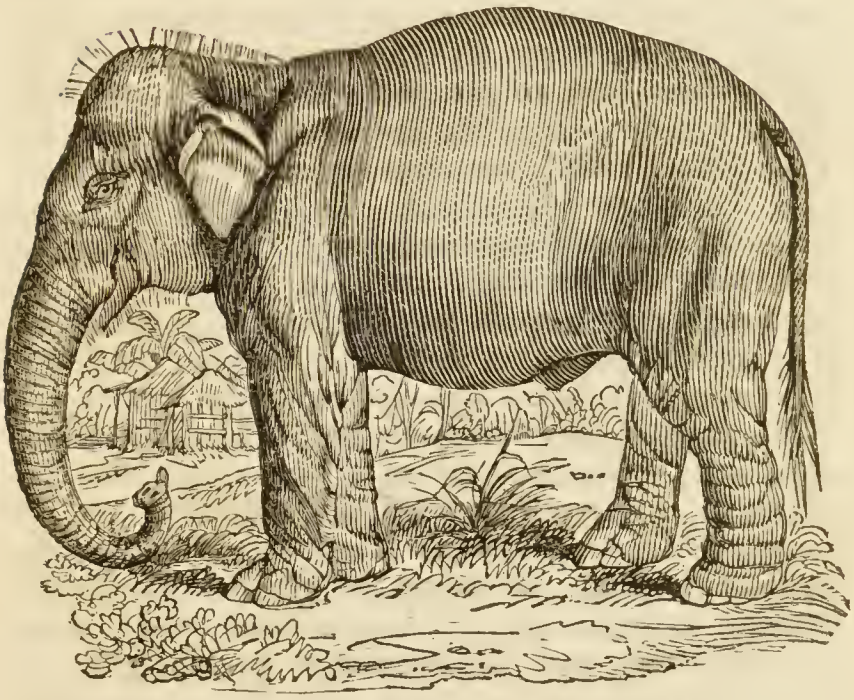
		Page
42	White elephant of Ava	207
43	Ancient medal—head of Socrates united with tha t of an elephant	210
44	Elephant worshipping the Sun and Moon from a Chinese sacred picture.	212
45	Neapolitan medal—Elephant before the tripod of Apollo	213
46	Coin of Cardinal Zabarella, religion of the elephant	ib.
47	March of an Indian army	218
48	Elephants conveying artillery through bad roads	221
49	Kublai Khan in his wooden castle	240
50	Ancient Medal of a triumphant entry of Alexander the Great	253
51	Triumph of Alexander, from Seb. le Clerc	255
52	Medal of Alexander wearing the head-skin of an elephant	258
53	Medal, supposed to be a head of Ptolemy Philadelphus	263
54	Coin of Antiochus	267
55	Triumphal elephants	268
56	Roman medallion of Africa	282
57	Triumph of Scipio	283
58	Medal of Julius Cæsar	287
59	Medal in honour of Julius Cæsar, struck by Trajan	ib.
60	Medal representing the triumphal arch voted by the Senate to Augustus	291
61	Medal of the funereal honours paid to Augustus	292
62	Statue of Romulus drawn by elephants, from a bas-relief described by Montfaucon	293
63	Medal of Caligula	294
64	Medal of Nero and his mother Agrippina	ib.
65	Medal struck in the reign of Antoninus Pius	295
66	Medal of Caligula	ib.
67	Triumphal elephants.	297
68	Medal of the funereal honours paid to Augustus by Tiberius.	298
69	Exterior view of the Colosseum of Vespasian	306
70	Interior view of ditto	309
71	Medal of Severus	313
72	Medal of the funereal honours paid to Pertinax by Severus.	320
73	Ruins of the Parthenon	321
74	The Olympian Jupiter of Phidias	329
75 to 77	Method of constructing the ancient statues of ivory	342
78	Female elephant and its young one, from Pompeii	352
79	Fossil elephant of Lena	367
80	Mexican hieroglyphic	371
81	Skull of the fossil elephant. *Elephas Primigenius*, Blumenbach.	372
82	Skeleton of the great mastodon.	376
83	Skeleton of the megatherium	379

THE ELEPHANT.

THE MENAGERIES.

Chapter I.

THE ELEPHANTS OF THE MENAGERIES.



The Indian Elephant.—Elephas Indicus, Cuvier *.

In the year 1681 an elephant was accidentally destroyed by fire, in a booth, in the city of Dublin; "and when the fire was extinguished, every one endeavoured to procure some part of the elephant, few of them having seen him living, by reason of the great rates put upon the sight of him†." We men-

* From a young female in Mr. Cross's Menagerie, in 1828.

† Anatomical account of the Elephant accidentally burnt in Dublin, 1682.

tion this circumstance to contrast it with the familiar acquaintance which almost every child of the present day has with this quadruped.

A century and a half ago, the elephant was rarely brought to these islands; and, for this reason, the multitude had not only extravagant ideas of the intelligence of this most interesting animal, but believed a great many absurdities regarding it, which opportunities of observation would have speedily eradicated. Thus, when Sir Thomas Brown wrote his "Enquiries into vulgar and common Errors," he states it to have been the prevalent opinion up to his time (about 1670) that the elephant had no joints, and that it never lay down. In a very curious specimen of our early natural history, "The Dialogues of Creatures Moralyzed," mention is made of "the olefawnte that boweth not the knees." In an old play printed in 1633, a woman is described as "stubborn as an elephant's leg—no bending in her;" and Shakspeare makes Ulysses, in Troilus and Cressida, say, "the elephant hath joints, but none for courtesy: his legs are legs for necessity, not for flexure." These passages shew the extent of the popular notion; to refute which Sir T. Brown appeals to experience, "whereof not many years past we have had the advantage in England, by an elephant shewn in many parts thereof, not only in the posture of standing, but kneeling and lying down*." This exhibition appears to have produced the beneficial effects of all direct appeals to the senses, with respect to errors which are capable of being refuted by such a test; for it seems that the false opinions regarding the elephant were "well suppressed," by the demonstration that he had no difficulty in assuming those positions which, on account of his bulk, were affirmed to be impossible.

Sir Thomas Brown, however, dreads the revival of

* Book iii. chap. 1.

the error, in the next generation, "from some strings of tradition;" for he argues, that as this was not the first elephant that had been seen in England, the effect of the truth might wear away, as it had before yielded to vulgar prejudice. It is quite clear, both from the general tone in which this writer mentions the subject, and from the particular facts upon record, that elephants were scarcely known in Europe as recently as the middle of the seventeenth century. Lewis IX. of France, indeed, sent an elephant to our Henry III., which was probably procured from some of the African chiefs, at the period when the French king invaded Palestine by the way of Egypt. This elephant was kept in the Tower of London; and with somewhat more of comfort to himself, as to the space in which he was confined, than the pent-up animals of our modern menageries: for the king, in a precept to the sheriff of London, in 1256, says, "we command you, that, of the farm of our city, ye cause, without delay, to be built at our Tower of London, one house of forty feet long, and twenty feet deep, for our elephant*." Emanuel of Portugal, also, sent a remarkable elephant to Pope Leo X., which was exhibited at Rome; and Cardan, about the same period (the beginning of the sixteenth century), describes an elephant which he had seen at the court of the Queen of Bohemia, the daughter of the Emperor Charles V.† With the additional exception of an elephant, which was sent to Charlemagne, in the year 802, by Haroun Al Raschid, caliph of the Saracens, there is no account of the animal being brought to Europe, after the time when the early Byzantine monarchs, in imitation of the princes who reigned before the division of the Roman empire, exhibited him to the people in the cruel sports of the Circus.

* Maitland's London, vol. i. p. 171.—Edit. 1772.

† Physicæ Curiosæ, p. 1024.

Even in the time of Justinian (A. D. 527), the elephant was rarely shewn either at Rome or Constantinople *.

During the middle ages, little or nothing was known of the elephant, except through the inaccurate representations of the animal upon medals. The figure of the elephant was used, too, in heraldry, with a tower on his back. When the arts were little practised in England the representation was rude enough; as may be seen on an ancient plate in St. Mary's Hall, at Coventry: and, probably, from this inaccuracy of form, the multitude, with the common disposition to burlesque, converted the "Elephant and Castle" into "the Pig and Whistle." Up to the time of the revival of letters, and indeed till the end of the sixteenth century, the people of Italy, whose ancestors had been so familiar with this quadruped, accounted all that was said about his sagacity as a fable, and had no idea of his form, except as to its vastness †. But the growing intercourse of the moderns with distant countries, and the spirit of curiosity which more particularly belongs to commercial nations, gradually rendered the elephant a somewhat common object in most large collections of foreign animals—at least after the Portuguese had penetrated to the interior of Africa, and the discovery of the passage to India had gradually led to the establishment of European settlements in the East. In this way the French king had an elephant at Versailles, which came from Congo, and which died in 1681 ‡. Thamas Kouli Khan, in 1741, sent

* See Cuper de Elephantis; in Novus Thesaurus Antiquitatum Romanorum, congestus ab. A. H. de Sallengre, t. iii. p. 248.—1719.

† Pierius, Hierogl. lib. ii. cap. 18; quoted in Sallengre.

‡ Perrault, Mémoires pour servir à l'histoire Naturelle des Animaux, tom. ii. p. 503.

fourteen as a present to the Czar of Russia*; and they have become so easy of attainment in England, that we may readily believe an anecdote told regarding the elephant which lately died at Chiswick,—that the Duke of Devonshire, having been asked by a lady of rank what she should send him from India, and having laughingly answered, "Oh, nothing smaller than an elephant," was surprised to find, at the expiration of some months, a very handsome female of the species consigned to his care.

The Duke of Devonshire's elephant was kept at his grace's villa at Chiswick, under circumstances peculiarly favourable to its health and docility. The house in which she was shut up was of large dimensions, well ventilated, and arranged in every particular with a proper regard to the comfort of the animal. But she often had the range of a spacious paddock; and the exhibition of her sagacity was therefore doubly pleasing, for it was evidently not effected by rigid confinement. At the voice of her keeper she came out of her house, and immediately took up a broom, ready to perform his bidding in sweeping the paths or the grass. She would follow him round the enclosure with a pail or a watering-pot, shewing her readiness to take that share of labour which the elephants of the East are so willing to perform. Her reward was a carrot and some water; but previously to satisfying her thirst by an ample draught, she would exhibit her ingenuity in emptying the contents of a soda-water bottle, which was tightly corked. This she effected in a singularly adroit manner. Pressing the small bottle against the ground with her enormous foot, so as to hold it securely at an angle of about forty-five degrees, she gradually twisted out the cork with her trunk, although it was very little above the edge of the

* Lévesque, Histoire de Russie.

neck: then, without altering the position, she turned her trunk round the bottle, so that she might reverse it, and thus empty the water into the extremity of the proboscis. This she accomplished without spilling a drop; and she delivered the empty bottle to her keeper before she attempted to discharge the contents of the trunk into the mouth. She performed another trick which required equal nicety and patience. The keeper, who was accustomed to ride on her neck like the *mohouts*, or elephant drivers of India, had a large cloth or housing, which he spread over her, when he thus bestrode her in somewhat of oriental state. Upon alighting, which she allowed him to do by kneeling, he desired her to take off the cloth. This she effected by putting the muscles of her loins in action, so that the shrinking of her loose skin gave motion to the cloth, and it gradually wriggled on one side, till it fell by its own weight. The cloth was then, of course, in a heap; but the elephant, spreading it carefully upon the grass with her trunk, folded it up, as a napkin is folded, till it was sufficiently compact for her purpose. She then poised it with her trunk for a few seconds, and by one jerk threw it over her head to the centre of her back, where it remained as steady as if the burden had been adjusted by human hands. The affection of this poor animal for her keeper was very great. The man who had the charge of her in 1828, when we saw her, had attended her for five years, having succeeded another who had been with her eight or ten years. When first placed under his charge, she was intractable for some time, evidently resenting the loss of her former friend; but she gradually became obedient and attached, and would cry after him whenever he was absent for more than a few hours. The elephants of India, in the same way, cannot easily be brought to obey a stranger, and ma-

nifest a remarkable knowledge of their old mohouts if they should meet after a long separation*. The elephant of the Duke of Devonshire was about twenty-one years old when she died, early in 1829. We have understood that the disease which carried her off was pulmonary consumption.

The inhabitants of London have recently witnessed the dramatic exhibition of an elephant, which has afforded them a more remarkable example of the sagacity of this quadruped than the ordinary docility which it manifests at the command of the showman. The elephant which, in the last winter, attracted crowds to the Adelphi Theatre, was probably not more sagacious than the greater number of her species; but she was well disciplined, and she exhibited her feats with considerable effect, by their adaptation to scenic display. To march in a procession, to kneel down without any more perceptible bidding than the waving of a hand, to salute a particular individual, to place a crown upon the head of "the true prince," to eat and drink with great gravity and propriety of demeanour, and to make her reverence to an audience without any apparent signal, are very striking evidences of the tractability of the creature; but they are by no means of the class of novel exhibitions, and they have been excelled by other performances, of which we have a distinct record. One of the most remarkable narratives of the ancient display of elephants in a theatre, is that of Ælian, who has described, in a very lively manner, the extreme docility of the elephants of Germanicus. At that period elephants were *bred* at Rome—a fact which has been most unaccountably overlooked in the descriptions of modern naturalists, but the practicability of which has received abundant confirmation from recent experience. Great care, according to Ælian, was paid to their health; and

* See Williamson's Oriental Field Sports, p. 41.

the nicest discipline was used to extinguish whatever was ferocious in their nature, and to call forth their sagacity by undeviating kindness. Particular attention was directed to the effect of music upon them; and they were so accustomed to musical instruments, that they not only lost all dread of the clashing of cymbals, but learnt to feel delight at the gentle notes of flutes, and would beat time with their feet when their ears were gratified with the agreeable sounds to which they were habituated. Their keeper accustomed them also to the sight of great multitudes of people. Upon an occasion when a particular exhibition of the docility of the elephants was required, twelve of the most sagacious and well-trained were selected, who, marching into the theatre with a regular step, at the voice of their keeper moved in harmonious measure, sometimes in a circle, and sometimes divided into parties, scattering flowers over the pavement. In the intervals of the dance, they would beat time to the music, still preserving their proper order. The Romans, with their accustomed luxury, feasted the elephants, after this display, with prodigal magnificence. Splendid couches were placed in the arena, ornamented with paintings, and covered with tapestry. Before the couches, upon tables of ivory and cedar, was spread the banquet of the elephants, in vessels of gold and silver. The preparations being completed, the twelve elephants marched in, six males clad in the robes of men, and six females attired as women. They lay down in order upon their couches, or "*Triclinium*s of festival recumbency*," and, at a signal, extended their trunks and ate with most praiseworthy moderation. Not one of them, says Ælian, appeared the least voracious, or manifested any disposition for an unequal share of the food, or an undue proportion of

* Sir T. Brown.

the delicacies. They were as moderate, also, in their drink, and received the cups which were presented to them with the greatest decorum *. According to Pliny, at the spectacles given by Germanicus, it was not an uncommon thing to see elephants hurl javelins in the air, and catch them in their trunks, fight with each other as gladiators, and then execute a Pyrrhic dance. Lastly, they danced upon a rope, and their steps were so practised and certain, that four of them traversed the rope, bearing a litter which contained one of their companions who feigned to be sick †. This feat of dancing or walking upon a rope, might, perhaps, be doubted, if it rested merely upon the testimony of a single author; but the practice is confirmed by many ancient writers of authority, who agree with Pliny, that the elephants trained at Rome would not only walk along a rope forward, but retire backward with equal precision. Seneca describes an elephant who, at the command of his African keeper, would kneel down, and walk upon a rope ‡. Suetonius also mentions, that an elephant, in the presence of the Emperor Galba, climbed up an inclined rope to the roof of the theatre, and descended in the same way, bearing a sitter §. Dion gives a similar testimony to the extraordinary power of so heavy an animal to walk along a rope without any balance—a docility which is the more wonderful, when we bear in mind that one of the strongest instincts which the elephant possesses, is that which impels him to experiment upon the stability of every surface which he is required to cross, before he will trust his body to the

* See Ælian de Animalibus, lib. ii. cap. xi. Gesner's translation.

† Plinii Nat. Hist. lib. viii. c. 2. It is difficult to understand how the elephants could carry a litter, without walking along two parallel ropes. The text of Pliny gives no elucidation of this point.

‡ Epist. 86. § Suetonius in Galba, cap. vi.

chance of breaking down the support which is prepared for him. The yielding rope must have called this instinct into action; although it should be observed, that the elephant will pass a bridge which vibrates, when nothing will induce him to set foot upon one whose tottering condition manifests its insecurity*. It may a little abate our surprise at the rope-dancing faculty of the elephant, when we learn that a horse has exhibited the same performance. At the solemnities which attended the wedding of Robert, brother to the King of France, in 1237, a horse was ridden along a rope†.

Amongst the curious feats of elephants, though less remarkable than those we have described, Arrian mentions, that he saw an elephant who, having a cymbal attached to each knee, and holding a third by his proboscis, beat a measure with astonishing exactness; and that other elephants danced in a circle round him, without deviating in the least from the time which their companion indicated. Busbequius (or Busbec), who was ambassador from the Emperor of Germany, to Constantinople, in 1555, saw an elephant there not only dance with elegance and accuracy, but play with a ball with great skill, throwing it with his trunk, and catching it again, as easily as a man could with his hands. Of the reverence which elephants may be taught to pay to human beings, we have several remarkable instances. An elephant is recorded to have saluted Domitian: and Martial has alluded to the circumstance in a nauseously flattering epigram, which intimates that the creature paid this homage without any command; and that he instinctively felt the divinity, as the poet calls it, of this pampered tyrant. The elephant which Emanuel of Portugal presented to Leo X. went

* Williamson's Field Sports.

† Leibnitz Accessiones Historicæ; quoted in Beckmann, vol. iii.

upon his knees, with a profound inclination of his head, when he first saw the Pope *. The veneration of the elephant for persons in authority has descended to those of secondary dignity; for Cardan saw the one belonging to the Queen of Bohemia, which was also very sagacious in other respects, welcome an archbishop of Milan, upon his bended knees. Such homage as this, however agreeable it may be to human pride, is as worthless as that which Augustus received upon his triumphal entry into Rome, after the battle of Actium, when the parrots from the windows cried out "Honour and victory to Cæsar." The conqueror gave enormous prices for these sagacious birds; but one bird, unluckily forgetting his last lesson, repeated that which he had been taught when the success of Augustus over his great rival was not so sure—"Honour and victory to Antony the Emperor†"—and then Augustus grew tired of his winged flatterers, as he called them,—perhaps without making the discovery that all flatterers are equally contemptible.

The exhibition of the elephant at the Adelphi Theatre, however it may have been exceeded by the feats of the elephants of antiquity, was exceedingly curious and instructive. The animal took part in the scene with almost undeviating precision; displayed no want of confidence or self-possession in the midst of lights, and music, and the shouts of the people; and made her parting salute with as much grace as if she had Emperors and Popes only to bow to. One of the most curious scenes in which she took a prominent part, was that in which she assisted the escape of the Prince and his adherents from prison, by kneeling upon her hind legs, and thus forming an

* Osorius de Gestis Emanuelis Regis,—cited in Sallengre.

† Budæus de Asse, cited in Le Gendre, Traité de l'Opinion, vol. ii.

Scene exhibited at the Adelphi Theatre.

inclined plane, upon which her friends might safely reach the ground.

It has been stated to us that this elephant, when first brought out upon the stage of the Adelphi, would not be led to any particular point, till she had carefully tried the strength of the boards upon which she trod, thrusting her trunk upon every suspicious spot, and slowly and hesitatingly placing her feet in advance, before she moved her body forward. A remarkable example of this instinct is mentioned by a writer who had opportunities of observing the elephants of India:—"An elephant belonging to Mr. Boddam, of the Bengal civil service at Gyah, used every day to pass over a small bridge, leading from his master's house into the town of Gyah. He one day refused to go over it, and it was with great difficulty, by goring him most cruelly with the *hawkuss* (an iron instrument), that the *mohout* (driver) could get him to venture on the bridge, the strength of which he first tried with his trunk, shewing clearly that he suspected that it was not sufficiently strong. At last he went on, and before he could get over, the bridge gave way, and they were precipitated into the ditch, which killed the driver, and considerably injured the elephant*."

This instinct which the elephant possesses of trying the strength of any construction, whether natural or artificial, which it is necessary for him to cross, is particularly worthy of observation. When the enormous weight of a full-grown elephant is considered, it must be obvious, that if the creature were rashly to place his body upon any frail support his danger would be extreme. His caution, therefore, in avoiding such an evil is constantly exercised; and the powerful as well as delicate instrument of touch which he possesses enables him always to be convinced of his

* Johnson's Indian Field Sports, p. 56.

security, without incurring any risk under ordinary circumstances. The elephant at the Adelphi retained this instinct in full force, however she might have been led away from her natural habits by the artificial restraints of her discipline;—and we, therefore, give full belief to the assertion. We are not quite so prepared to believe what we have also heard stated with regard to this animal, that, upon being satisfied of the strength of the stage, and finding herself in a theatre, she immediately, without any direction from her keeper, began to rehearse the scenes which she had previously performed at Paris. Pliny, however, tells us, that an elephant, having been punished for his inaptitude in executing some feat which he was required to learn, was observed at night endeavouring to practise what he had vainly attempted in the day;—and Plutarch confirms this, by mentioning an elephant who practised his theatrical attitudes, alone, by moonlight.

A very curious example of the teachableness of the elephant is presented in the instance of a female, about seven years old, which is now exhibited in Mr. Cross's Menagerie. This animal was accustomed to perform some of the tricks usually taught to her species, such as kneeling down at the command of her keeper, ringing a bell, and blowing through her proboscis, as a mark of pleasure. The success of the elephant at the Adelphi Theatre was the cause of her being incited to higher performances. A proposal was made to Mr. Cross, that she should be exhibited in a melo-drama at the Coburg Theatre;—and she was accordingly removed thither to be trained in her new vocation. She followed her keeper very readily through the streets;—but she became uneasy at her change of lodgings, and the man, to quiet her, was obliged to sleep in the stable in which she was placed. Her theatrical education

occupied only three weeks; and in that short period she became accustomed to glaring lights and sudden sounds—learnt to move with a measured pace to musical cadences—was taught to distinguish one actor from another, so as to place a crown, with true poetic justice, on the head of the lawful king—and feasted at her banquet with almost as much propriety as the elephants of Germanicus. It is satisfactory to know, that this rapid instruction was not accompanied with severity. The keeper of the docile animal pursued a system of unremitting kindness; and every new acquirement was impressed upon her by judicious rewards. This was the plan which was followed by the ancients in the education of their elephants. Those whose performances are described by Ælian were, according to this writer, brought under discipline by the greatest kindness, and by the indulgence of varieties of food which were grateful to their palates;—and thus, he says, whatever was ferocious in their nature was gradually expelled, and a perfect gentleness, and even a sort of humanity, was induced in them. Ælian argues from this, that the beast is of a generous and noble disposition. The same principle, we apprehend, may be applied to the education of nearly all quadrupeds. The horse is made vicious by a harsh driver, and the ass acquires his hereditary doggedness from constant ill-treatment. The elephant is certainly more easily trained than the horse or the ass;—but the application of severity to the less teachable animal is only an indication of the ill-temper and impatience of the trainer. One of the most pleasing exhibitions of animal sagacity is presented by the equestrian stud of Mr. Ducrow. The superior docility of the horses of this extraordinary performer is produced by the most assiduous kindness, without the slightest mixture of severity.

The elephant of the Coburg Theatre has now re-

turned to her confinement at Mr. Cross's Menagerie. She is remarkable for a constant practice of rolling her body, as if she were swayed by the motion of a ship; and it is stated that she acquired this habit upon her voyage from Calcutta. The keeper informed us, that while she was occupied by her instruction at the theatre, he scarcely ever observed this; but that she resumed the motion immediately after she was placed in her own cell. Almost every elephant, under confinement, has a peculiar movement, as if it were necessary to substitute some exercise for the unrestrained activity of a state of nature. Darwin considers that this species of restlessness, in animals generally, is occasioned by increase of stimulus, or by accumulation of sensorial power. "Thus," he says, "when a squirrel is confined in a cage, he feels uneasiness from the accumulation of sensorial power in his muscles, which were before in continual violent exertion in his habits of life; and in this situation finds relief by perpetually jumping about his cage to expend a part of this accumulated sensorial power. For the same reason those children who are constrained to sit in some schools for hours together, are liable to acquire habits of moving some muscles of their faces, or hands, or feet, which are called tricks, to exhaust a part of the accumulated sensorial power*." The elephant also finds it essential to employ some portion of that intelligence, which, in his condition of liberty, conduces to his support and his pleasure, in an ever-active curiosity about little matters. He accommodates himself as well as he can to the narrow sphere of action in which he is placed. Thus, an elephant in a cell is always feeling about with his trunk—inserts the finger, as it has been expressively called, into the minutest crack—and examines every new object

* Zoonomia, vol. iv. p. 12, 8vo.

which is presented to him with the most eager curiosity. In this way we observed an elephant, exhibited in Atkins's travelling menagerie, spend more than an hour in unscrewing a nut which had been newly placed on the upper part of the cage; and M. Houel, a French artist, who published an elaborate account of the two elephants which the victorious armies of the French republic brought to Paris from Holland, states that, having, during the daily walk of the elephants, drawn some perpendicular and horizontal lines upon the wall of their cell, he was astonished to observe them, upon their return, examine these marks with the greatest attention, whilst the female, at length, deliberately proceeded to rub them out with her trunk*. M. Houel thinks that the necessity for some occupation is most felt by the female.

The elephant is, to a surprising extent, the creature of habit. We have mentioned that Mr. Cross's elephant required her keeper to sleep in the stable where she was newly placed. Upon her return to her old cell, the keeper left her at night as he had been previously accustomed to do; but the animal would not go to rest, as she usually did. She persevered in remaining upon her legs for four or five nights; till the keeper conjectured that she was unhappy without him. A hammock was, therefore, slung in the cell for the keeper;—and the poor beast, immediately that he took his place near her, lay down with evident satisfaction.

Elephants are not only annoyed by any deviation from their accustomed habits, but they sometimes resent any constrained departure from the regularity of their course, in an odd way. It is stated, amongst

* Histoire Naturelle des deux Eléphans, p. 89. Paris, 1803. 4to.

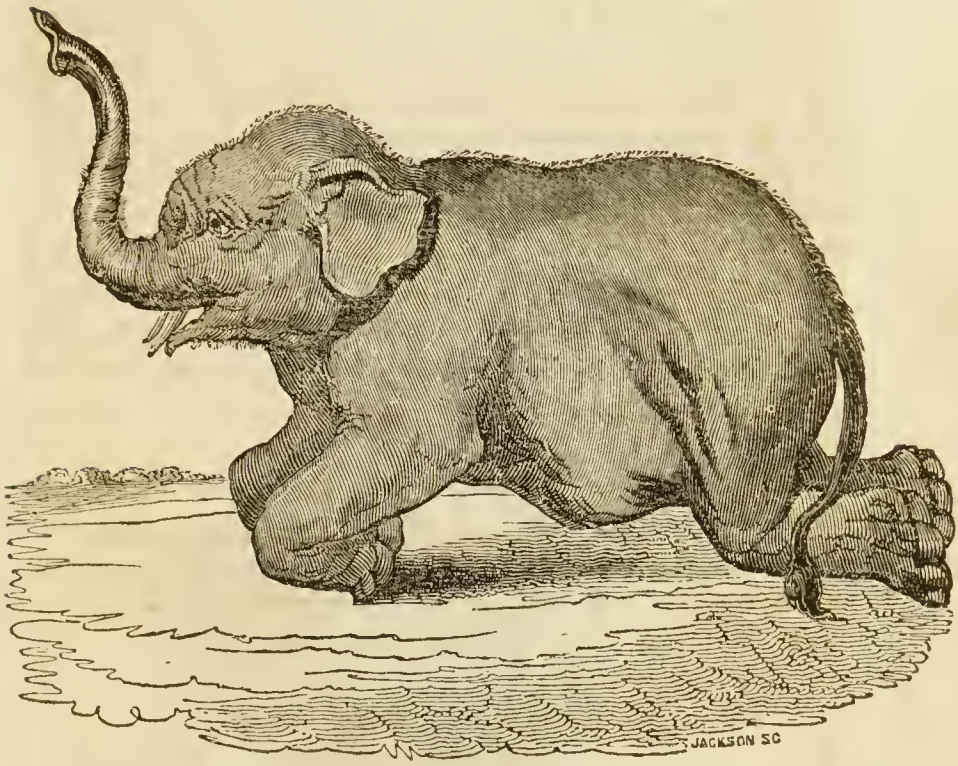
the traditionary stories of elephant sagacity, that Pidcock, to whom the Exeter Change Menageric formerly belonged, had, for some years, a custom of treating himself and his elephant in the evening with a glass of spirits, for which the animal regularly looked. Pidcock invariably gave the elephant the first glass out of the bottle, till one night he exclaimed, "You have been served first long enough, and it's my turn now." The proud beast was offended—refused the glass when he was denied his precedence—and never more would join his master in his revelries. An affecting instance of the force of habitual obedience was presented by Chuni, the famous elephant who was shot at Exeter Change. In the greatest access of his fury, when bullets were striking him from every side, he obeyed the voice of his keeper, who ordered him to kneel, in the belief that he might be more easily shot in that position*. In the same way an elephant who became furious at Geneva, in 1820, under circumstances similar to those which led to the death of Chuni, when running wildly about the town, attacking every one who came in his way, yielded the most prompt obedience to the female whose property he was, and suffered himself to be led by her to a place of safety, where he was killed.

The female elephant at Mr. Cross's Menagerie is called Lutchmé. This was the name of an elephant belonging to Captain Williamson, the writer on Oriental sports. The practice of giving names to elephants is of great antiquity, and is almost universal in the east. Thus, the favourite elephant of Porus was called Nicon,—and that of Antiochus, Ajax;—Abulabaz was the name of that which Haroun Alraschid sent to Charlemagne, and Hanno of that

* A very interesting account of the death of this elephant is given by Mr. Hone, in his "Every-Day Book," vol. ii. p. 322.

which Emanuel of Portugal presented to Leo X. It was said of the Mogul emperor, Akbar, that he knew all the names of his many thousand elephants.

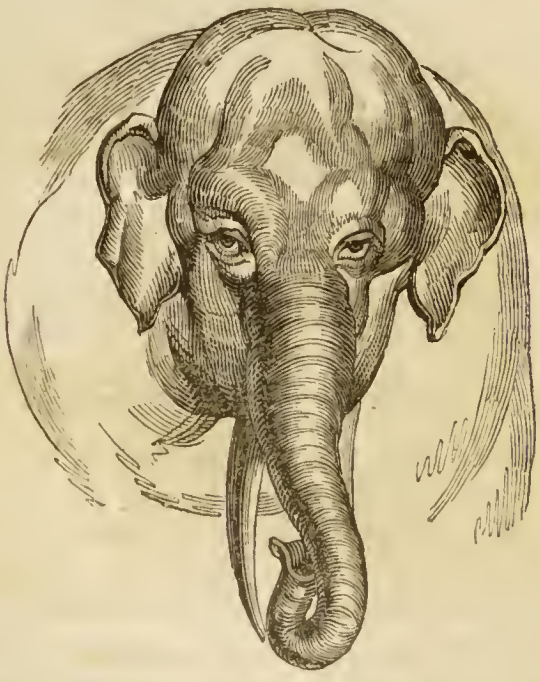
The following is a portrait of Mr. Cross's elephant, when kneeling.



Female Elephant at Mr. Cross's Menagerie.

Whatever interest we may feel in the sagacity which is ordinarily displayed by the elephants of our common English menageries, the wretched state of confinement in which so large an animal is kept prevents us forming any adequate notions of many of its peculiarities. For this reason the recent exhibition of the elephant in a theatre has contri-

buted very much to remove some of the popular prejudices concerning the quadruped, and to induce correct ideas of its peculiar movements. We cannot, indeed, upon a stage, see the animal bound about as in a state of nature—roll with delight in the mud, as Bruce has described it doing, to produce a crust upon its body which should be impervious to its tormentors the flies—collect water in its trunk, to spirt over its parched skin—and browse upon the tall branches of trees which it reaches with its proboscis. We shall not see these peculiarities of its native condition, till we have a proper receptacle for the elephant in our national menagerie, the Zoological Gardens. Without imputing blame to those who exhibit the elephant in this country, there is certainly great cruelty in shutting up in a miserable cage a creature who has such delight in liberty, and who is so obedient without be-



Head of a Female Elephant in Atkins's Menagerie.

ing restrained. The fine female elephant at Atkins's menagerie evidently suffers greatly under such severe durance. She has occasionally injured her keeper by pressing him against the wall of her cell, having scarcely room to turn round; and very recently, provoked perhaps by confinement, she deliberately attacked her proprietor, who went into the cage, and wounded him severely. This elephant is ordinarily very tractable; and her countenance, of which we give a portrait, appears to indicate great mildness and intelligence.

The elephants of the Jardin des Plantes, at Paris, have, by comparison with the elephants of our close menageries, a life of much happiness. Their cells are spacious; they are let out, at particular periods, to

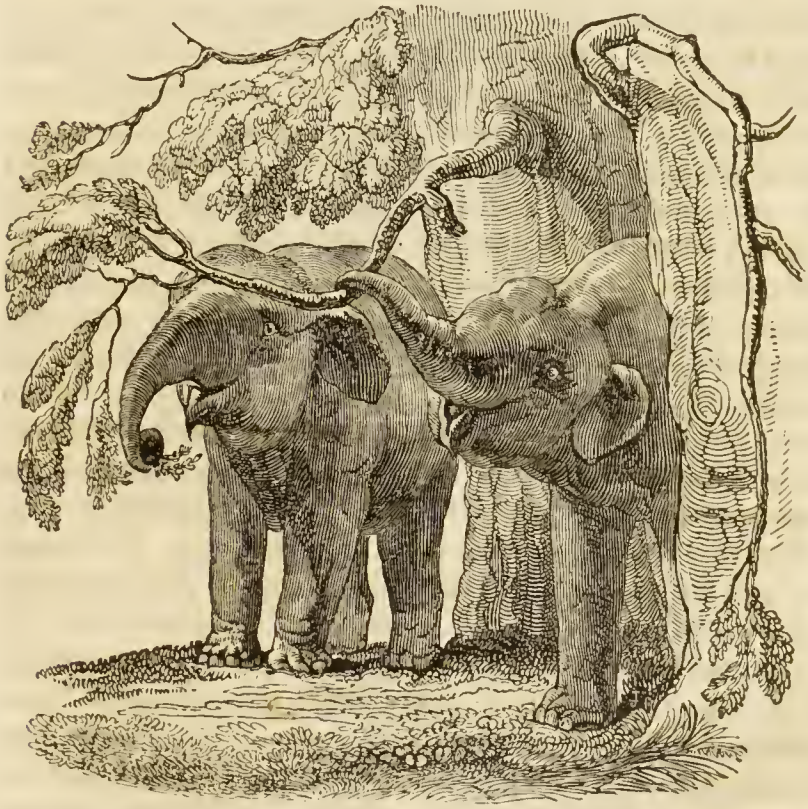
Elephant of the Jardin des Plantes.

range about a large enclosure; and they have a bath which they enjoy with infinite delight in warm weather. We saw, in 1825, the large male (who is since dead) up to his middle in a pool, in a hot day in August, spouting the water from his trunk with scarcely less joy than he would feel in his native woods. When his bath was finished, he would stand quietly for a little time in the sun;—and then, gathering a quantity of dust in his trunk, blow it over his back till the crevices in his skin were sufficiently covered to be protected against the flies.

The close confinement of the elephant has doubtless a tendency to aggravate those periodical fits of rage to which the males are subject; and, moreover, these fits are much more fearful when the animal is pent up in a narrow cage. The pieces of oak which formed the bars of Chuni's cage were eight or ten inches square,—and yet he snapped them like matches. The elephants of India which are employed in domestic purposes, although subject to these fits, are rarely obliged to be destroyed. They are confined in a secure place till the effect is passed off. Again, elephants in the miserable cages of our menageries are liable not only to accidents, but to diseases which prevent them reaching the great age which is peculiar to this quadruped. The elephant of Louis XIV., which died at Versailles when he was seventeen years old, for the last five years of his life was obliged to be lifted up by a machine, when he lay down, which he rarely did. This was evidently an effect of confinement, which had so weakened the muscular power of his body as to give some probability to the old fable that the elephant, in a state of nature, always sleeps in a standing position against a tree*. Another elephant, which was

* Perrault, Mémoires, tom. ii. p. 507.

kept at Versailles in the time of Louis XV., was so impatient of confinement, that he one night broke his chains, tore down the door of his cage, and rushed to a muddy pond in the park, where he was suffocated*. The elephants which were taken by the French from Holland had been accustomed, when quite young, to wander unrestrained in the park of the Petit Loo, browsing on the trees, and assisting each other to reach the branches †. When they were placed in cages for



Young Elephants browsing.

removal, being separated, the male soon shivered his prison to pieces, and their departure was delayed

* Houel, Histoire des deux Eléphans, p. 15.

† The cut is from M. Houel's design.

for some weeks. Their travelling cages being at length made strong enough, they were indeed moved without serious injury; but the female broke one of her tusks in terror when she first saw the daylight, after a long continuance in a state of darkness. Upon the arrival of these elephants at Paris they were confined for some time in the usual absurd manner; but at length a proper inclosure was attached to their cages, and they were often permitted even a wider range, so that they could be viewed under circumstances something approaching to a state of nature. M. Houel says—"I have occasionally seen the two elephants led into the garden of the Museum of Natural History, on fine days when the temperature was mild. The sight of the sun appeared to be to these creatures a source of the liveliest joy. The presence of this luminary refreshed them, as it refreshes every thing in nature; and their happiness was not concentrated in their thoughts, but manifested itself in every form of satisfaction. They bounded round each other, in a race of astonishing swiftness —they leaped from side to side, forward, backward; —they galloped—they trotted. All their movements were characterised by a sort of mad delight,—the expression of their love for liberty, which is innate in every being, and which the habit of slavery could not stifle*."

The quantity of food required for the daily consumption of a full-grown elephant is enormous. The elephant of Louis XIV. had daily eighty pounds of bread, twelve pints of wine, and a large quantity of vegetable soup, with bread and rice; this was exclusive of grass, and what he got from visitors. Desmarest states, that the domesticated elephant requires daily about two hundred pounds of aliment of all sorts.

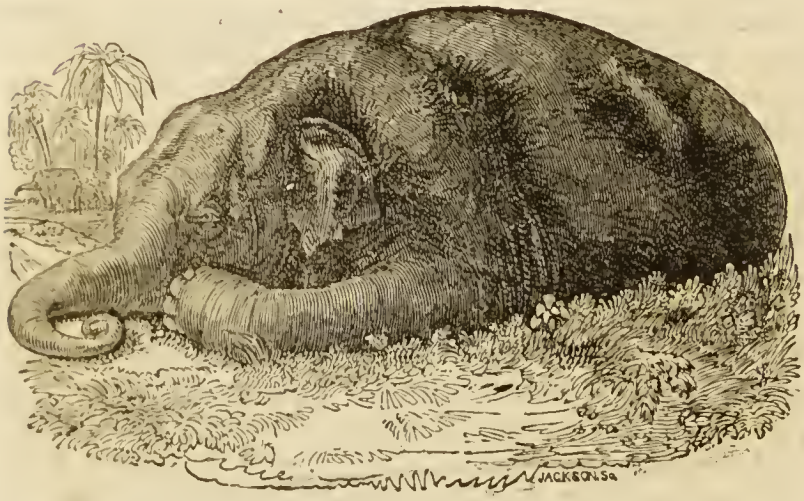
* Histoire, &c., p. 56.

It is recorded by one of the Roman historians, that the elephants which were taken from the Carthaginians, by Metellus, were so expensive to keep, that they were put to death in the Circus *. The elephant, if not well-fed, and with regularity, soon becomes a miserable object †. Bishop Heber witnessed the wretched condition of an old elephant that had been cheated of his proper allowance. "Adjoining the pool we saw a crowd of people assembled round a fallen elephant; apprehending that it was one of our own, I urged my horse to the spot. On asking, however, whose it was, a bystander said it belonged to 'the asylum of the world,' and had fallen down from weakness, which was not surprising, since, instead of an allowance of twenty-five rupees a month, necessary for the keep of an elephant, I was told that these poor creatures, all but those in the immediate stables of his majesty, had, for some time back, owing to the dilapidated state of the finances, and the roguery of the commissariat, received only five. They had now given the wretched animal a cordial, and were endeavouring to raise it on its legs, but in vain. It groaned pitifully, but lay quite helpless, and was, in fact, a mountain of skin and bone ‡." This happened in the Nawâb Vizier's country, where elephants, not many years ago, were maintained in great numbers, from those resources which only Asiatic despotism could command. The cost of a stud of elephants, such as the Mogul princes kept up, must have been enormous. To each of the hundred and one elephants that were set apart for the Emperor Akbar's own riding, the daily allowance of food was two hundred pounds in weight. Most

* See Pliny, liv. viii. c. 7. † Williamson's Oriental Field Sports.
‡ Journal, vol. ii. p. 46.

of them, in addition, had ten pounds of sugar, besides rice, pepper, and milk. In the sugar-cane season, each elephant had daily three hundred canes*. The elephants of our English menageries are principally fed upon hay and carrots.

* Ayeen Akbery.



Elephant lying down.

Chapter II.

THE STRUCTURE OF THE ELEPHANT, EXHIBITED IN CONNEXION WITH ITS NATURAL HABITS.

It has been well observed by a French naturalist, in speaking of the actions of animals, that those things which they learn through their intercourse with man are liable to change, and in reality do change, whenever there is any relaxation of the care with which the animals are taught: but that, on the contrary, those habits which depend only upon the laws of nature, and which are acquired without education, by the force of instinct, are as invariable as nature herself *. The elephants of the menageries, as we have described them in the previous chapter, may perform less astonishing tricks than the elephants of the Romans; and the elephants that carry the baggage and lift the guns of our troops in India, may be less tractable in war than those of Kublai Khan. Elephants were not intended by Nature to dance upon ropes, or to carry towers full of armed warriors upon their backs. If the men of other times, subduing this mighty beast to their use, taught him to turn aside from his natural habits to apply his sagacity and his strength to such purposes, and if the men of the present day have ceased thus to employ him, we must not conclude that his strength or his intelligence are, therefore, diminished. What he did in a state of nature two thousand years ago, he does now. His natural habits, as well as those of every other living thing, are derived from his or-

* Astruc, Histoire Naturelle du Languedoc.

ganization; his structure is the best adapted to the necessities of his existence; and as the structure is invariably the same in the same species, we may conclude that the natural habits are equally invariable.

It is this consideration that will at once shew us the absurdity of imagining that the natural habits of animals are changed by accident or time. Buffon says, "the elephant, like the beaver, loves the society of its species. Elephants understand each other, assemble, disperse, and act in concert. If they do not build, and do not labour in common, the reason may be ascribed to the want of space and tranquillity; for men were in old times greatly multiplied where the elephant most abounded." The reason which Buffon gives for the interruption of the labours of the elephant by man is certainly incorrect; for this quadruped lives, and has always lived, in particular districts, without the interference of the human race. But with or without man he would have remained the same as he is now. He does not build, because he is not organised for building; the beaver is an architect, because the faculty of building is necessary for his comfortable existence, and the art is suggested by his organization. But the beaver, like the sparrow and the wasp, builds in one way, and has always so built. Instinct undergoes no change from experience; and therefore birds and insects now build as they built in the time of Aristotle *.

The comparison of habits with structure has given to Natural History, in our own times, a truth and precision which it lamentably wanted half a century ago. Natural History was, for many ages, little more than a crude mass of isolated statements, a great number of which were false and contradictory. Alexander the Great, who, amidst his extravagant plans of conquest, had an ardent desire for the ad-

* See Bonnet, Contemplation de la Nature, part xii.

vancement of knowledge, commanded all the huntsmen, fowlers, and fishermen of Asia and Greece, to render an account of their discoveries to Aristotle *. From this cause, probably, the Natural History of that extraordinary philosopher is, in many particulars, more correct than that of the eloquent Buffon, who was always straining his facts to support a theory. But still the truths of the elder naturalists are mixed with a vast quantity of fable—a necessary result of their own limited opportunities of observation, and their reliance upon information which too often proceeded from ignorant and careless narrators. The huntsmen, and fowlers, and fishermen of antiquity, who communicated facts to Aristotle and other interpreters of nature, were succeeded by the travellers of modern times; and these, like their predecessors, went on, for several generations, repeating the old fables which found a place in every system of Natural History, and rarely attempting to examine the habits of animals with their own eyes. Indeed, the difficulty of eradicating a false statement in Natural History is quite remarkable; and ought to operate as a striking example of the mischief of repeating assertions which are unsupported by distinct evidence. Thus, the greater number of writers, scientific as well as popular, assert that the young elephant sucks the mother with its trunk; arguing from the difficulty which the little creature would have in using its mouth, and passing over the precise statements of those who have actually witnessed the operation, performed in the very way which these parties describe as impossible. Again, many persons, even in our day, maintain that the elephant will not breed in captivity; although Mr. Corse (now Mr. Corse Scott), formerly superintendant of the East India Company's elephants at Tiperah, a province of Bengal, has disproved this

* Plinii Hist. Nat., lib. viii. cap. 16.

notion, from his own experience ; and has thus given the fullest confirmation of the statements of Ælian, and other ancient writers, that they were bred at Rome. A great deal of the popular history of the elephant, in particular, has, through such a perseverance in error, become matter of romance. We have, for this reason, assigned especial importance to the collection of the facts of his natural condition, and of his employment by mankind; and we are quite sure, whatever may be the imperfections of our narrative, it will lose none of its interest by having all its statements supported by adequate authority.

The living species of elephants are two, the Indian and the African. We shall subsequently speak of their specific distinctions, which consist in the shape of the head, the size of the ears, and the formation of the teeth. The Indian elephant is found in all the southern countries of Asia: that is, in Cochinchina ; in the kingdoms of Siam, Pegu, and Ava ; in Hindostan, and the adjacent islands, particularly in Ceylon. The African elephant inhabits all the countries of the western side of Africa, from the Niger and the Senegal, to the Cape of Good Hope. Both species live in large herds, reigning the almost exclusive possessors of immense forests and marshy plains covered with long grass ; repelling the attacks of every other quadruped by their great strength, their swiftness, and their union ; and diminished in their numbers, or forced into captivity, by one vanquisher only, man,—who has subdued their force and intelligence to his domestic uses, and for many ages has found an article of luxury in the solid substance which forms their principal defence in their native woods.

When we consider the slowness with which elephants are produced, on the one hand, and the enormous quantity of food which they require for their support, on the other, the immense numbers

which still range over the uncultivated portions of India and Africa offer one of the many wonderful examples of the care with which the maintenance of every living thing is provided for. Destroying as much vegetable food as he consumes, by the broad feet which sustain his prodigious weight, and unfitted to endure any long privations, as the camel does, the elephant is the natural inhabitant of those regions where there is a wild luxuriousness of vegetation, but where man has not yet settled to make the earth bear even more abundantly what is peculiarly adapted to his own sustenance. The elephant and man cannot be inhabitants of the same region, at one and the same time, without a limit being placed to the multiplication of the mightier, but the less sagacious animal: and thus, the crafty Indian entraps him into captivity, and the wily Caffre marks him down with his gun, destroying some hundreds in the course of a life devoted to the dangerous task of hunting him for his ivory. Civilization, partial as it is in Africa, is driving the elephants farther and farther from the haunts of men; but they still are seen, by travellers, in very large numbers. In his journey from Mourzuk to Kouka, in Bornou, Major Denham came upon elephants' footmarks, of an immense size and only a few hours old. "Whole trees were broken down where they had fed; and where they had reposed their ponderous bodies, young trees, shrubs, and underwood had been crushed beneath their weight*." Four days after, he saw the herd in grounds annually overflowed by the waters of a lake, where the coarse grass is twice the height of a man. "They seemed to cover the face of the country." Mr. Rose, an officer of engineers, who recently accompanied some elephant hunters in Southern Africa, was told by an experienced hunter, that he had seen as many as three

* Discoveries in Northern and Central Africa, p. 50.

thousand in a troop, on the bank of the Fish River; and that he and his Hottentots had killed eight hundred in twenty months. Mr. Rose was satisfied of their great numbers, from the paths which marked their progress, in all directions, through the country "which they have possessed for ages," where all "the roads are the work of the elephant*." Mr. Pringle, to whose communications we are already so much indebted in the first volume of this work, has favoured us with a description of a herd of wild elephants, presenting a vivid picture of a scene which must be one of the most remarkable that can be presented to the eye in the deep solitudes of a tropical wilderness:—

"A herd of elephants, browsing in majestic tranquillity amidst the wild magnificence of an African landscape, is a very noble sight, and one of which I shall never forget the impression. It is difficult to convey in a brief notice an adequate idea of such a scene; but if the reader will, in imagination, accompany me on a short excursion into the wilderness, I shall endeavour to shew him at least what the South Africans call the *spoor*—the *vestigia* of a troop of elephants.

"During my residence on the eastern frontier of the Cape Colony, I accompanied a party of English officers on a little exploratory excursion, into a tract of country then termed the Neutral Territory, immediately adjoining to the location of the Scottish settlers at Bavian's River. This territory, which comprises an irregular area of about 2,000,000 of acres, had remained for several years entirely without inhabitants; for its native possessors, the Caffers and Ghonaquas, had been expelled from it in 1819 by the colonial forces, and no other permanent inhabitants had yet been allowed to occupy it. The colonists

* Four Years in Southern Africa.

were even forbidden to hunt in it under severe penalties, and, in consequence of this, the wild animals had resorted thither in considerable numbers.

"The upper part of this extensive tract, into which we now penetrated, is an exceedingly wild and bewildering region, broken into innumerable ravines, encumbered with rocks, precipices, and impenetrable woods and jungles, and surrounded on almost every side by lofty and sterile mountains. During our first day's journey, although we saw many herds of large game, such as quaghas, gnoos, hartebeests, koodoos, with a variety of the smaller antelopes, there was no appearance of elephants; but, in the course of the second day, as we pursued our route down the valley of the Koonap river, we became aware that a numerous troop of these gigantic animals had recently preceded us. Foot-prints of all dimensions, from eight to fifteen inches in diameter, were everywhere visible; and in the swampy spots on the banks of the river, it was evident that some of them had been luxuriously enjoying themselves by rolling their unwieldy bulks in the ooze and mud. But it was in the groves and jungles that they had left the most striking proofs of their recent presence and peculiar habits. In many places paths had been trodden through the midst of dense thorny forests, otherwise impenetrable. They appeared to have opened these paths with great judgment, always taking the best and shortest cut to the next open savanna, or ford of the river; and in this way they were of the greatest use to us by pioneering our route through a most difficult and intricate country, never yet traversed by a wheel-carriage, and great part of it, indeed, inaccessible even on horseback, except for the aid of these powerful and sagacious animals. In such places (as the Hottentots assured me) the great bull elephants always march in the van, bursting through

the jungle, as a bullock would through a field of hops, treading down the thorny brushwood, and breaking off with his proboscis the larger branches that obstruct his passage; the females and younger part of the herd follow in his wake in single file: and in this manner a path is cleared through the densest woods and forests, such as it would take the pioneers of an army no small labour to accomplish.

"Among the groves of mimosa trees, which were thinly sprinkled over the grassy meadows along the river margins, the traces of the elephants were not less apparent. Immense numbers of these trees had been torn out of the ground, and placed in an inverted position, in order to enable the animals to browse at their ease on the soft and juicy roots, which form a favourite part of their food. I observed that, in numerous instances, when the trees were of considerable size, the elephant had employed one of his tusks, exactly as we should use a crow-bar—thrusting it under the roots to loosen their hold of the earth, before he could tear them up with his proboscis. Many of the larger mimosas had resisted all these efforts; and, indeed, it is only after heavy rains, when the soil is soft and loose, that they can successfully attempt this operation.

"While we were admiring these and other indications of the elephant's strength and sagacity, we suddenly found ourselves, on issuing from a woody defile, through one of the wild paths I have mentioned, in the midst of a numerous herd of these animals. None of them, however, were very close upon us; but they were seen scattered in little clumps over the bottom and sides of a valley two or three miles in length; some browsing on the succulent *spekboom* (*Postulacaria afra*) which clothed the skirts of the hills on either side; others at work among the mimosa trees sprinkled over the low and grassy savanna.

As we proceeded cautiously onward, and some of these parties came more distinctly into view (consisting, apparently, in many instances, of separate families, the male, the female, and the young of different sizes), the gigantic magnitude of the leaders became more and more striking. The calm and stately tranquillity of their deportment, too, was remarkable. Though we were a band of about a dozen horsemen, including our Hottentot attendants, they seemed either not to observe, or altogether to disregard, our march down the valley."

The neutral territory, in which Mr. Pringle saw the herd which afforded him the occasion for this description, had been without inhabitants for several years; and the elephants and other wild animals had resumed the dominion which the great tyrant, man, had quitted. It is the same in India. Sir Stamford Raffles, in his journey through the Southern Presidencies to Passumah, first fell in with numerous tracks of elephants, where a village had formerly stood. He passed over much ground which at one period had been in cultivation, but which had long remained in a state of nature. At another place, which had also been the site of a village, but where no place of human dwelling or cultivation was then to be found, he slept in a shed which his attendants erected, near a broad river. "During the night," says Sir Stamford Raffles, "we were awakened by the approach of a party of elephants, who seemed anxious to inquire our business within their domains*." A contest is incessantly going on, between man and the inferior animals, for the possession of the earth. Where civilization is established, the dominion is undisputed;—but where man proceeds in his career of improvement by slow and solitary steps, he has to fight his way against those

* Life and Correspondence, p. 315.

quadrupeds who resist his power, till they find their resistance unavailing. If he recede, the lion and the elephant return to their ancient domain. Whatever man holds in this world must be held by an unceasing exercise of his energy. If he neglect to maintain his ground by the same activity of intellect by which he has acquired it, an enemy starts up on every side. Even the commonest processes of nature require to be watched. They are either allies or foes. The sun, and the rain, and the dew, and the wind, are as much annoyances as assistants, unless they co-operate with an intelligence which directs them to good. If the lion break not into his fold, and the elephant tread not down his plantations, the minutest insects are at hand to injure his flocks and destroy his harvests, when the universal conqueror indolently ceases to defend his empire.

The elephant is, beyond comparison with others, the largest of all land animals. An old anatomist has properly described him as "animal vastissimum;" —and we may admit this description without adopting the exaggerated accounts of his height which have been so commonly circulated. Mr. Corse, who, perhaps, saw more Indian elephants than any other European, never heard of more than one elephant whose height much exceeded ten feet. This was a male belonging to the late Vizier of Oude. His dimensions, as accurately measured, were as follow:—

	ft.	in.
From foot to foot, over the shoulder	22	10½
From the top of the shoulder, perpendicular height .	10	6
From the top of the head, when set up	12	2
From the front of the face to the insertion of the tail	15	11

The East India Company's standard, for serviceable elephants, is seven feet and upwards, measured at the shoulder, in the same manner that horses are measured. At the middle of the back, which is curved, they are several inches higher. The height

of a living elephant is exceedingly deceptive, even to those who are most accustomed to the animal. Mr. Corse measured a celebrated elephant of the Nabob of Dacca, which was generally stated to be fourteen feet high, and which he considered to be twelve;—it was found not to exceed ten feet. The elephants of Hindostan are, however, the smallest of the Asiatic species. Those from Pegu and Ava are much larger; and the skeleton of the elephant at the Museum at Petersburgh, which was sent to the Czar Peter by the King of Persia, measures sixteen feet and a half in height. Still, it is probable that few elephants of more than nine feet in height have been brought to Europe. Neither the male nor female which the French took from Holland were eight feet in height. The elephant of Hindostan has certainly not degenerated in size for several centuries; for the Emperor Baber (a contemporary of our Henry VII.) observes, "they say that in some islands the elephant grows to the height of ten gez (about twenty feet). I have never, in these countries, seen one above four or five gez*" (eight or ten feet). That the Hindoos had a tolerably definite notion of the medium height of an elephant, as we have of that of a cow or a horse, may be collected from another passage in the same amusing book, where the writer, describing a cavity in a rock, says, "it was as high as an elephant." The African species is generally larger than the Indian. Mr. Pringle informs us, that he met with an enormous bull elephant, (the Hottentots called him "a big terrible fellow, plenty, plenty big,") which two engineer officers agreed was fourteen feet high. Major Denham, on his expedition to the Tchad, fell in with elephants which he guessed to be sixteen feet in height;—but one which was killed in his presence, and which he describes as an immense fellow, mea-

* Memoirs of Baber, p. 316.

sured nine feet six inches from the foot to the hip-bone, and three feet from the hip-bone to the back, making a height of twelve feet six inches. An elephant even of eight feet is, indeed, an enormous creature; and it is difficult to form an adequate idea of his bulk and stature from any description. In a small cell, also, his size cannot be correctly appreciated. According to the principles of perspective, a large object is not properly seen, unless we are removed to about three times the distance of its height and size. In a favourable situation, such as a large inclosure, or theatre, where the proportions of the animal are well displayed, and he is seen in action, with man by his side, some notion may not only be formed of his vastness, but the mind may be incited to the contemplation of those arrangements of Providence, by which a creature of such prodigious bulk is enabled to provide his daily sustenance without difficulty in a natural state; and is endued with every requisite bodily activity and mental energy, for the enjoyment of existence in as great perfection of content as the squirrel which leaps from tree to tree, or the wild horse which gallops over boundless plains in search of the greenest pastures.

It seems agreed that a large elephant weighs from six thousand to seven thousand pounds. Of this weight the carcase is about four-fifths. To support such a structure, the legs must be solid and compact —formed more with regard to strength than flexibility—fitted, in fact, to bear an enormous weight upon a level surface, without any violent strains produced by sudden bounds, or by the necessity of ascending or descending great elevations. That the elephant was designed for this equability of motion is evident from its want of the elastic ligament which, in almost all quadrupeds, connects the head of the thigh-bone with the pelvis, and which gives the hind

legs power to resist the strain which is produced by moving upon irregular surfaces*. The elephant is indeed found in the neighbourhood of mountainous ranges; and, under the command of man, certainly ascends rocky passes, bearing a considerable weight: but that such a service is a violation of his natural habits is evident from the fact that in these situations he is liable to fall backward, not having that power of resistance in his hind-legs which enables many other quadrupeds to move in safety over craggy ground. Bernier, in his amusing "Travels in the Mogul Empire," indeed, states that, "though heavy and unwieldy, these animals are yet sure-footed, feeling their way when the road is difficult and dangerous, and assuring themselves of the firm hold of one foot before they move another†." But this very caution indicates that the elephant is placed in an unnatural situation when he is required to ascend craggy steeps, and that his great sagacity alone enables him to overcome the difficulty. Bernier himself describes a remarkable accident which he witnessed, proceeding from this mode of compelling the elephant to a labour for which he is unfitted by nature:—"The King (Aurengzebe) was ascending the Peer-Punchal mountains, and from which a distant view of the kingdom of Kashmire is first obtained. He was followed by a long line of elephants, upon which sat the ladies in mik-dembers and amaris‡. The foremost, appalled, as is supposed, by the great length and acclivity of the path before him, stepped back upon the elephant that was moving in his track; who again pushed against the third elephant, the third against the fourth, and so on until fifteen of them, incapable of turning round or extricating them-

* See Home's Comparative Anatomy, vol. i. p. 95.

† Bernier's Travels, translated by Brock, vol. ii. p. 129.

‡ Seats, with canopies.

selves in a road so steep and narrow, fell down the precipice. Happily for the women, the place where they fell was of no great height; only three or four were killed; but there were no means of saving any of the elephants. Whenever these animals fall under the immense burthen usually placed upon their backs, they never rise again, even on a good road. Two days afterwards we passed that way, and I observed that some of the poor elephants still moved their trunks*."

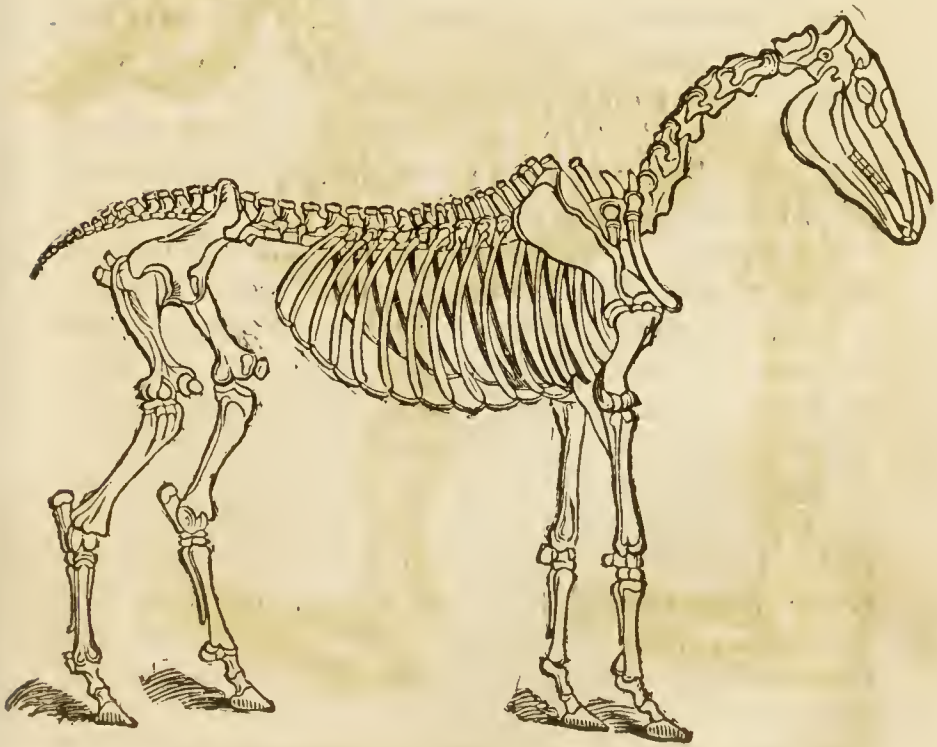
The peculiarity of the progressive movement of the elephant is generally attributed to the weight of his body; and it is so different from the motion of other animals with which we are familiar, that we are in the

Skeleton of the Elephant shot at Exeter Change.

* Bernier, vol. ii. p. 149.

habit of hastily calling the conformation which produces it a deformity. We "cannot allow that it is deformed, since those due proportions, laid down by the Author of Nature, are as well observed in this, as in any other animal; for nothing can be deformed but what swerves from a general rule*." To illustrate these proportions, we have had a drawing made of the skeleton of the elephant which was shot at Exeter Change. This skeleton, which is admirably preserved, has been set up with great skill at the Museum of the London University.

To understand the progressive motion of the elephant, it will be desirable to compare the bones of his legs with those of the horse. For this object we add a representation of the skeleton of the latter. It will be obvious that, without reckoning the



Skeleton of the Horse.

* Blair on the Elephant, Phil. Trans. vol. xxvii.

joint which unites the hoof, the horse has three bones in the leg,—the elephant has two. For this reason the horse moves with an elastic pace, while the elephant has a grave and stiff progression;—and this want of elasticity renders it disagreeable to ride on him for any distance. It will be evident also, from an inspection of the two skeletons, why the horse, in kneeling, brings his hind-legs under his body, while those of the elephant go behind him, exactly in the same way as man kneels.

The legs of the elephant are supported upon broad hoofs, each terminated, in the adult animal, by five nails. The whole number of nails is seldom developed on the hind feet. The author of Oriental Field Sports says, "To please a native, there should be five on each fore-foot, and four on each hind foot: odd numbers are considered by them as unlucky *. I have known some with fifteen nails, which no native would purchase; and I have heard of one with twenty: but I do not recollect seeing one with more than eighteen." The sole of an elephant's foot is nearly circular; and in one of eight feet high is about twelve inches in diameter.

Supported, then, upon these solid pillars, an elephant moves forward in search of food. His diet is wholly vegetable. The intestines are formed upon the same principle as in the horse. It has been observed by Sir Everard Home, that "the colon in animals that live upon the same species of food is of a greater length in proportion to the scantiness of the supply. Among quadrupeds this may be illustrated by the length of the colon in the elephant being only twenty feet six inches, while in the dromedary it is forty-two. The first inhabits the fertile woods of Asia; the latter the arid deserts of

* This is almost the only exception to the universal faith in odd numbers.

Arabia*." Many other "remarkable facts and striking analogies make it clear that some process goes on in the colon, from which a secondary supply of nourishment is produced." The elephant, from the simple construction of his stomach and intestines, which require frequent supplies—from the great quantity of food which he consumes for his ordinary support—from the waste which is necessarily produced by the weight and bulk of his body—and from the conformation by which he is fitted to move upon level ground,—is evidently the natural inhabitant of rich plains where vegetation attains its utmost luxuriance,—where the grass of the green savannas is ever kept fresh by perennial springs, and where the woods never cease to offer him their succulent shoots, which he delights to crop with his "lithe proboscis." A passage in Job which, principally upon the authority of Bochart, has been applied to the hippopotamus, is considered by many learned commentators as referring to the elephant. The following words certainly describe, with great accuracy, the natural haunts of the elephant: "He lieth under the shady trees, in the covert of the reed, and fens. The shady trees cover him with their shadow; the willows of the brook compass him about†." Thus, then, in

> "the flowery lap
> Of some irriguous valley,"

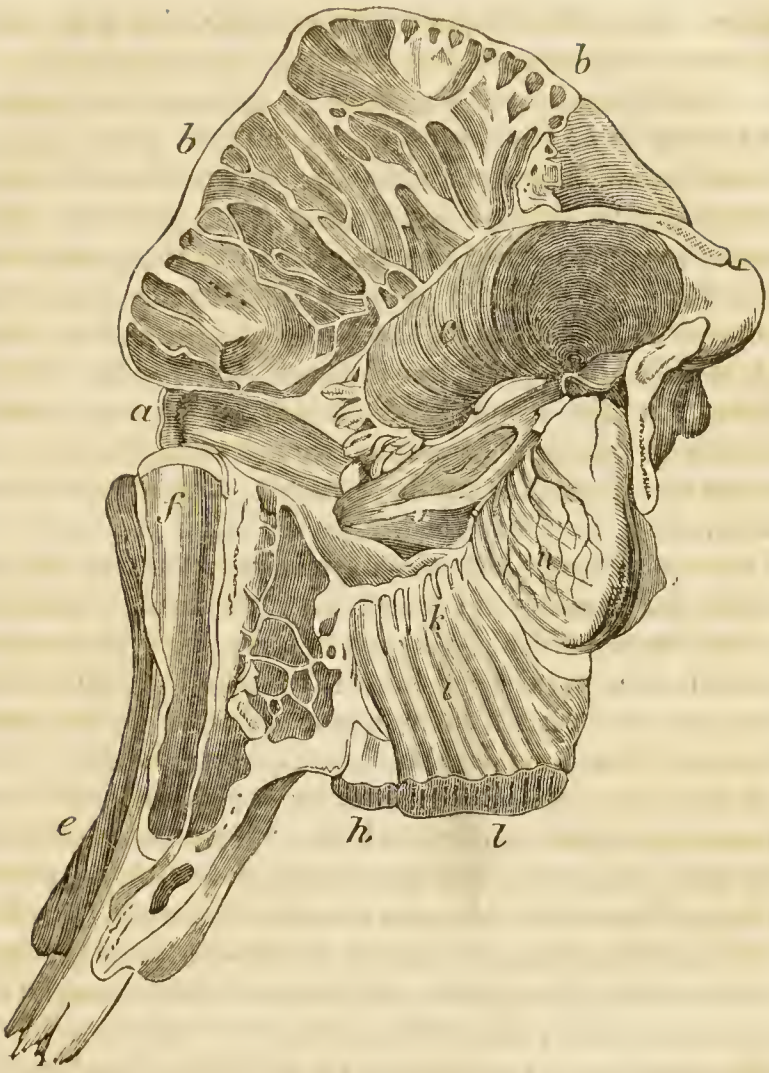
the elephant has to seek his daily food. But how is he to crop the store which nature has provided for him? The head of the horse is attached to his neck by a flexible series of vertebræ, which he can move at his pleasure; which he can arch in a graceful curve when he is proud and delighted, or throw upward with inflated nostrils when he is angry; by which he can graze without depressing his legs, or

* Comparative Anatomy, vol. i. p. 470.
† Job, xl. 21, 22.

browse without elevating them. The head of the elephant is supported upon a very short, and, therefore, stiff series of vertebræ, which, by reason of their conformation, offer little more than a pivot upon which the animal can move his head, in a limited degree, from side to side, but which prevent him either elevating or depressing it, so as to procure his food. His enormous tusks, too, would, in some situations, prevent him conveniently reaching his sustenance, even if he could give his head the requisite movement. It is evident that the animal could not exist if nature had not provided him with an instrument of peculiar construction for supplying all his necessities.

Before we proceed to a description of the elephant's proboscis, it may be convenient to exhibit a section of the head, which offers some very remarkable peculiarities of conformation; as it evidently must do from having such singular attachments as the proboscis and the tusks.

The engraving represents the cranium of an Indian elephant, cut vertically. *a* is the opening of the nostrils; *b b*, the sinus which separates the two tables of the skull; *c*, the cavity of the brain. We shall explain other parts as we proceed to another division of the subject. The two tables of the skull are separated from each other by numerous bony processes, between which there is a vast number of cells, communicating with the throat by means of the eustachian tube, and filled with air, instead of the medullary substance which occupies the same space in other animals. This structure is peculiarly adapted to the purposes of increasing the surface for the attachment of those large muscles which belong to the lower jaw, proboscis, and neck of the elephant, and of augmenting the mechanical power of these muscles by removing their attachments to a greater distance from the centre of motion. These advantages



Section of the skull of the Elephant.

are attained by the cellular structure which we have just described, without augmenting the weight of the head; a precaution especially necessary in the present instance, as the head is more heavy and massy in this than in any other animal. The air-cells of birds in general, and particularly those which pervade the skull of the ostrich, eagle, and owl, present examples of a similar formation, attended with the

same uses, viz., those of increasing the bulk and strength of the bone and diminishing its weight.

That this cavity of the skull is required to support the weight of the tusks, in particular, which act as great levers, is proved by the growth of the tusks corresponding with the enlargement of the cranium. The cavity may also serve as a protection to the brain ; for although the frontal bone is enormously thick, the animal is exposed to the most violent concussions in making his progress through the woods. Capt. Knox, in his account of Ceylon, says, " it is their constant practice to shove down with their heads great trees, which they love to eat, when they be too high, and they cannot otherwise reach the boughs." The compensating power of the great cavity of the skull for bearing the trunk and the tusks, is superadded to the ordinary means of suspensory ligaments, which are invariably found in quadrupeds which " must needs hold their heads down in an inclining posture for a considerable time together, which would be very laborious and painful for the muscles*." The opening in the skull called the 'great occipital foramen' is, in most quadrupeds, obliquely situated at the base of the skull, whereas in man it is nearly parallel with the horizon, and almost in the centre of the base of the skull. The great occipital foramen transmits the spinal marrow ; and the variations in the situation of this opening, in man and in animals of analogous structure, are important when viewed in connexion with the ordinary position of the body. In man, who is designed to hold his body erect, this opening is situated, as has been stated, nearly in the centre of the base of the skull ; the head, therefore, is supported nearly in a state of equilibrium on the spinal column. But in quadrupeds it is situated farther back in proportion as the face is elongated ; and instead of being nearly parallel to the horizon, it

* Ray's Wisdom of God.

forms a considerable angle with it. Hence the weight of the head in these animals is not sustained by the spine, but by a ligament of immense strength, which is either wanting in the human subject, or so inconsiderable as to have its existence disputed. This is the ligament of the nape, called by butchers the *pax-wax;* and the tough, strong, tendinous substance of which it is composed must be familiar to every one who has ever carved a neck of veal, and driven the knife against it. The head of an ox or a horse is a heavy weight acting at the end of a long lever, consequently with a great purchase ; and from this force, thus advantageously applied, the bones of the neck would be in constant danger of dislocation, if they were not fortified by this strong tape. It is of immense size in the elephant, the vast weight of whose head, so much augmented by the enormous size of the tusks, sufficiently accounts for the increased magnitude of the suspensory ligament.

In the elephant, the facial line—that is, the vertical height of the skull, when compared with its horizontal length—is elevated by causes which have no connexion with the volume of the brain. From this circumstance, the elephant acquires an appearance of great sagacity, in the eyes even of common observers ; and the ancients, who attached great importance to the form of the skull, attributed to him the most exalted intellectual endowments. In the same way, the owl, whose skull is elevated without a proportionate volume of brain, was the emblem of Wisdom among the Greeks. Modern naturalists appear to have gone to the other extreme ; and, finding that the volume of the brain bears no relation to the external appearance of the elephant's skull, are disposed to deny the quadruped that sagacity which he really does possess.

The proboscis, or trunk, of the elephant has com-

manded the admiration of all who have witnessed its remarkable powers. The child and the philosopher, the refined Roman and the rude African, have equally been struck with its astonishing union of flexibility and strength. Cicero calls it, by a bold figure of speech, "the elephant's hand;"—Lucretius, even more expressively, describes it by the word "anguimanus," the snake-hand;—and the Caffre, who has learnt nothing from the poets and orators, but is taught by nature alone, when he kills an elephant approaches the trunk with a superstitious awe, and, cutting it off, solemnly inters it, repeatedly exclaiming, "The elephant is a great lord, and the trunk is his hand*."

Before we proceed to a description of the uses of the trunk, we shall present, as clearly as we can, a view of its anatomical construction. The most precise details of this somewhat complex subject are those given by Cuvier, upon his dissection of two elephants†.

The author of the "Anatomical account of the Elephant burnt at Dublin" was not allowed to dissect the trunk; but he says, "where the fire had entered upon it, I could distinctly perceive three orders of fibres; one obliquely and spirally descending; another spirally but crosswise descending; the third were strait fibres." He adds, "several of the motions of his proboscis might be performed by the afore-mentioned three distinct series of muscular fibres; as its contraction, motion up or down, to the right or to the left; but by what means he was able at pleasure to shoot it out, from a foot, upon any sudden occasion, to five feet long, and that with extraordinary force, I cannot clearly perceive." This is the problem which later anatomists have endea-

* Rose's Southern Africa, p. 155.

† See Leçons d'Anatomie Comparée, tom. v.

voured to solve. The trunk of the elephant has neither bone nor cartilage; and this constitutes the peculiarity of the mechanism, and involves the difficulty of exactly understanding its mode of operation; for "we do not find any part without a bone except this, that is spontaneously protruded or prolonged, and so kept for some time*."

The centre of the trunk is pierced throughout by two long canals which are the prolongations of the nostrils, and which are separated one from the other by a fatty substance about the third of an inch in thickness. In their whole course these channels are nearer the fore part of the trunk than the hind; and they preserve the same diameter almost throughout, till they come as high as the centre of the bone (*os intermaxillare*) in which the tusks are planted. At this point they suddenly turn, to approach the anterior surface of this bone, making a semi-circular curve. They are so compressed at this point, that unless there be a muscular action of the animal to dilate them, they operate as valves to prevent the ascent of any liquid to a higher point. Beyond this curve the canals again widen, and are curved back to approach the bony part of the nostril. The elephant, by this construction, can use the trunk as a reservoir for water, drawing the liquid up by suction to a certain point, beyond which it cannot pass. Cuvier considers that the trunk is not in itself an organ of smell, because the passage of any liquid through the canals would be incompatible with the delicacy of the membrane with which the nostrils in the head are lined. That membrane in man is sensibly affected with pain when any liquid enters the nose; and for the same reason, the sense of smell does not exist in the nostrils of those cetaceous animals that are constantly using

* Anatomical Account of the Elephant burnt, &c. p. 32.

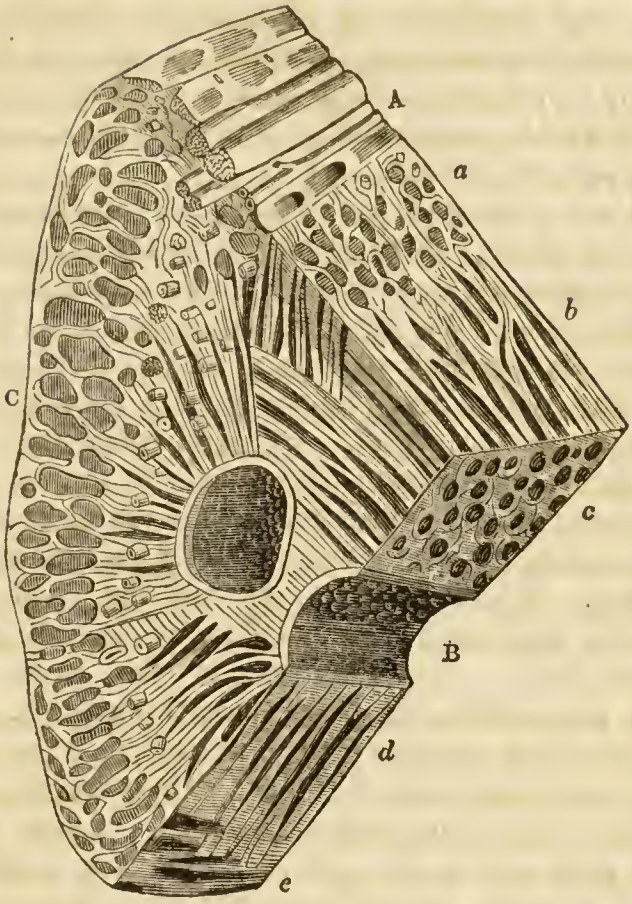
them as a passage for water, such as the whale, that makes them operate as a *jet-d'eau*. The sense of smell in the elephant, according to this great comparative anatomist, is confined to that part of the nostrils which is enclosed in the bones of the head.

The muscles of the trunk give to these two canals, which we have described, whatever inflexions the animal desires. Although these muscles are of an extraordinary number, they may be reduced to two principal classes—those which form the body or the interior part of the trunk, and those which encompass it. These latter are all, more or less, longitudinal—that is, they begin at the circumference of the base of the trunk, and are prolonged, more or less directly, towards its point. The other class of muscles are all transverse; and cut the axis of the trunk in various directions. It may assist this description, to append a copy of the sections of the trunk given by Cuvier*.

The *longitudinal* muscles are divided into anterior, posterior, and lateral. The first, which are affixed to the frontal bone, form an innumerable multitude of bundles, which all descend parallel to each other, and which are alternately contracted by tendinous intersections placed at short intervals. The second, originating in the intermaxillary bones, form two beds, divided one from the other into a great number of little bundles, whose direction is oblique. The lateral muscles form two pair, which are in some degree analogous to the muscle of the upper lip.

The use of these different longitudinal muscles is sufficiently evident. When they are moved altogether, the whole of the trunk is shortened. When those on one side only are moved, the trunk is bent on that side. But further, the division of these muscles, and the tendinous intersections of the anterior class,

* Anat. Comp. vol. v. pl. xxix.



Sections of the trunk of the Elephant.

A. Horizontal section, in which we see the small transverse muscles cut—some (*a*) across ; others (*b*) in their length.

B. Vertical section in length, which has divided the nasal canal of the left side. The small transverse muscles which are seen in their length at *b*, are cut across at *c* ;—other small muscles of the same kind are seen at their length at *d*. We see in their length, at *e*, the antagonists of these transverse muscles—that is, the small longitudinal muscles.

C. Vertical section across. The small transverse muscles are seen in their length. They have various directions, not precisely radiating from the axis to the circumference, though their course is always across. They are all within the bed of the small longitudinal muscles which the section has divided across. The principal nerves and blood-vessels are also shewn in this section; as also the two canals of the trunk.

enable the animal, at his pleasure, to shorten or to bend certain portions only of his trunk, while the rest remains prolonged, or even bent in a contrary direction. In consequence there is no sort of curve, says Cuvier, which the animal, by their means, cannot give to this instrument.

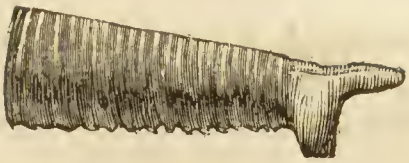
The small muscles which form the *interior* of the trunk, are all very distinct one from the other; and are all terminated by slender tendons, of which some cross the beds of the longitudinal muscles, to be attached to the exterior membrane which covers all the trunk, and others are planted in the membrane of the canals of the trunk. Perrault considered that all these radiated from the canals to the circumference, and that they diminished the diameter of the exterior envelope, without diminishing the diameter of the canal. This, however, is not the case: two sets of the muscles have this effect, but the other set certainly lessen the diameter of the canal, although their action can never shut the nostrils. All the transverse muscles are plunged in a cellular tissue, uniformly filled with fat. They are the antagonists of the longitudinal muscles. Cuvier adds that in their contraction they compel the trunk to *elongate* entirely, or in part; for their separations enable the animal to exercise them exactly within the limits which he desires. In the preceding paragraph, which is also translated from Cuvier, he assigns to the *longitudinal* muscles the power of *shortening* or of bending the trunk entirely, or in part, and he says that "there is no sort of curve which the animal, by this means, cannot give to this instrument." We must bear in mind the difference between contraction and elongation. When the longitudinal muscles are at rest, the trunk remains extended to its natural length; when they are in use it is bent or contracted. But there must be another power

to elongate the instrument with force and precision, after it is wholly or partially contracted. We must discover a mechanism, which, without bone, or cartilaginous rings, enables the animal "at pleasure to shoot it out, from a foot, upon any sudden occasion, to five feet long, and that with extraordinary force." This power must be found in the transverse muscles. The first object of the transverse muscles, or rather of two sets of them, is to keep the canals open, while the trunk is curved in various ways; for it is evident, if there were no such power, the passages would be shut, as is the case when we attempt to give contrary and sudden flexures to any elastic tube. Their second object is to elongate the trunk, and to assist in the direction of its movements. Being connected with the inner and outer membrane —that is, being attached to the membrane which covers the trunk, and that which covers the canal— they can readily diminish the space between the two substances, by their contraction. At the same time it is evident that, when the length of these muscles, from membrane to membrane, is diminished by their contraction, their thickness, which is in the direction of the length of the trunk, must be proportionally augmented; while, on the other hand, the thickness of the longitudinal muscles, which is in the direction of the width of the trunk, is proportionally diminished. From this formation it results that the trunk is more or less elongated, as the transverse muscles are more, and the longitudinal muscles less, employed. The limit to this extension of the trunk is, of course, the relaxation which the longitudinal muscles admit of, before they begin to re-act; and, just in the same manner, the resistance of the transverse ones is the limit to the shortening in length produced by the action of the longitudinal ones. The two classes of muscles are, therefore, called antagonist. The simplest popular view of the matter is to say that when the

trunk is shortened it is thickened; and when it is lengthened it is rendered thin: and the only difference between these operations, and the production of the same changes in an elastic tube of Indian rubber, consists in the moving force of the trunk being in the organ itself, and distributed amongst the almost infinite number of muscles which that organ contains. In this way, the force is multiplied by the action of the will of the animal upon a vast number of points; and although the bellying of a few muscles may scarcely produce any visible motion, the repetition of the same action by many thousand muscles will effect that sudden extension which appeared so wonderful to the Dublin anatomist. The difficulty there may have been in comprehending the peculiarity of the action of the trunk is not surprising, when we consider that the instrument is altogether constructed upon principles different from common muscular action; and that the power of the mechanism is balanced by an almost infinite number of these small muscles, not more than the twelfth of an inch each in thickness.

The extent of the command which the animal possesses of his trunk, may be estimated from the fact, which Cuvier has ascertained, that the muscles of this organ which have the power of distinct action, are not far short of forty thousand. We need not therefore be surprised, if this instrument be strong enough to tear up a tree, and delicate enough to seize a pin. There is no animal structure in the least like the trunk of the elephant; but though the mechanism is unique, it is altogether complete for its purposes.

The trunk of the elephant is terminated, as is well known, by an extremely flexible prolongation of the muscles, destined to seize whatever the animal desires. This may be considered his finger. Opposed to this is a sort of thumb, which enables him to hold fast the object which he wishes to take up. Between the finger and thumb are the extremities of the nostrils.



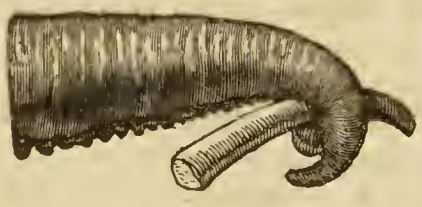
There is some difference in the external appearance of the extremity of the trunk of the male and female elephant. The following cuts are from drawings made by Houel, from the male and female elephants of the Jardin des Plantes :—

Extremities of the proboscis. A, *of the male;* B, *of the female.*

The trunk of the elephant may be first regarded as an instrument for collecting his food. He feeds upon all vegetable substances, from the leaves of trees and the coarsest grass, to the most farinaceous grain and the choicest fruit. Though his enormous bulk, requiring that his provender shall be in large quantity, renders a plentiful supply of the commoner vegetable productions necessary to him, yet his palate is pleased with delicacies. For this reason the strength and the minute touch of his proboscis are equally available in the collection of his daily supplies. If he meet with long herbage, he twists his trunk spirally round the roots and crops them off.

The bundle which he gathers is then held between what we have called the finger and thumb of the trunk, and is thus conveyed to the mouth :—

If the objects which he is collecting are too small to repay him for the trouble of carrying them to his mouth, he holds them one by one behind his thumb, till he has gathered enough for a load. Thus, if he find a small root, he seldom eats it at once, but collects two or three, holding each in the following manner:—



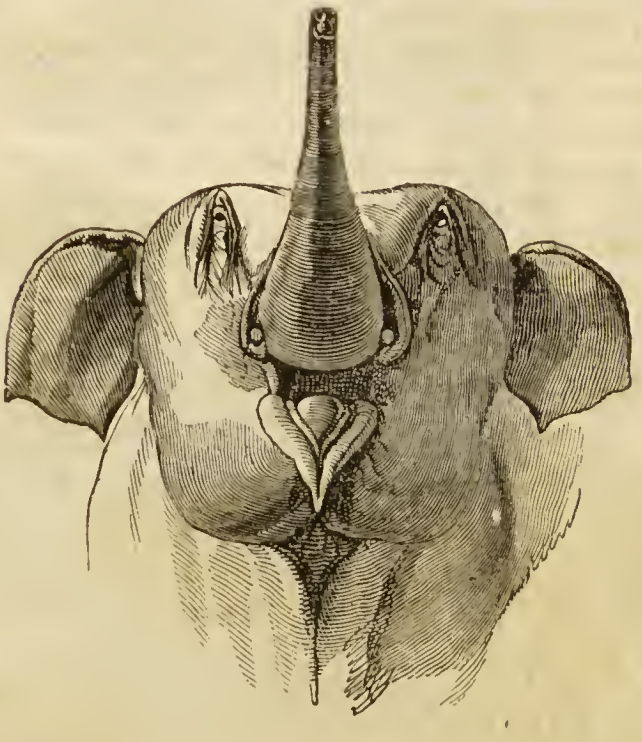
When the object which he wants requires force for its removal, or is difficult to reach, he completely curls his trunk, thus—

and in this way, elevating himself upon his hinder legs, he pulls down the tall branches of the trees of the forests which are his natural domain *.

The mode in which the elephant conveys his food to his mouth will be best understood by the following representation, which shews the animal reaching upward with his trunk. He has no power to apply his mouth to the food to be taken, (with the single exception of the mode in which the young elephant sucks); and therefore, whether he gather the supply

* The cut, representing this, is from M. Houel's work.

below or above his head, the substance gathered is introduced into his mouth by the inward flexure of the proboscis. The food then receives its due mastication *.



A country full of succulent plants, and plentifully supplied with showers and pools, is the natural abode of the elephant. Copious draughts of water are necessary to his existence. His trunk is the instrument by which he collects his liquid sustenance. By drawing in his breath he receives the necessary supply into the channels of his trunk, and, when he pleases, discharges it into his mouth. Perhaps a partial contraction of the diameter of the tubes of the trunk, which Cuvier has shewn to be a necessary consequence of the formation of one set of the transverse

* See chap. iii.

muscles, may assist this operation: it is extremely difficult, if not impossible, otherwise to understand how the animal can eject the liquid from his mouth by his breath, while he is drinking at the same instant. It is an error of some writers who state, that the large cavity of the head is a reservoir for the liquid which the animal takes up in his trunk:—it is held in his trunk by the action of his breath, but no part can pass beyond the sudden curve of the channels into the nostrils themselves, and thence into the head. When the elephant ejects the water from the trunk to the mouth, a gurgling sound is produced by the passage of the air; the lips are motionless.

As an organ of touch, the proboscis of the elephant is exquisitely fine. Elephants sometimes go blind; and, under that privation, the poor animal can not only collect its food, and discriminate as to its quality, by this wonderful instrument, but can travel, without much difficulty, over unequal ground, avoiding lumps and hollows, and stepping over ditches. The creature, under such circumstances, rarely touches the ground with its trunk; but, projecting it forward as far as possible, lets the finger, which is curled inward to protect the nostrils, skim along the surface, to the inequalities of which this organ adjusts itself with wonderful exactness *.

The great care of the elephant, whether he be in a state of nature, or under the control of man, is invariably to put his trunk out of harm, as far as he can, when any danger presents itself. If he is attacked by a tiger, or any other wild animal, he carries his trunk as high as he can in the air; and if this delicate organ be in the slightest degree injured, the elephant becomes wild with rage and terror. He is even afraid of a dead tiger, and carefully puts his trunk out of reach. The instinct by which the creature defends and preserves this precious instrument, is in proportion to its paramount importance. Mr. Williamson saw an elephant whose trunk had been cut through with a bill-hook; and though the wound was healed, the animal was perfectly helpless—unable to supply its own food, and incapable of even travelling without danger. He was fed with bundles of grass, which were put into his mouth; had he been in a state of nature, he must have perished. An affecting example of the instinct with which the elephant preserves his trunk, is exhibited in the death of the poor animal who was burnt at Dublin.

* See Williamson, p. 78.

The author of the Anatomical Account says—"Doubtless the elephant's care to preserve the proboscis was great; for when we dissected him *we found it thrust near two feet into a very hard ground;* upon which account we thought it had been burnt, till the head was divided from the body, and then we found it kept fast to the ground by the proboscis."

The care with which the elephant endeavours to put his trunk out of danger makes him extremely cautious of using it as a weapon. He rarely strikes with it; though he will frequently throw clods and stones with it at objects which he dislikes. Elephants often thus attack hogs, casting their missiles with tolerable force and precision *. This fact is a confirmation of Busbec's account of the animal playing at ball. One of the elephants in the Jardin des Plantes is extremely expert at playing with a log of wood, which it will often do, to the great amusement of the crowd.

The power of crossing rivers must be essential to the existence of the elephant in a state of nature; for the quantity of food which a herd of elephants consume renders it necessary that they should be constantly moving from place to place. The elephant crosses a stream in two ways. If the bed of the river is hard, and the water not of too great a depth, he fords it. It is a matter of indifference to him whether his body be completely immersed in the water; for as long as he can bring the tip of his trunk to the surface, so as to breathe the external air, he is safe. But the elephant will require to cross the largest rivers as well as the smallest brooks, in his search for food; and it may even be requisite for him to pass such mighty waters as the Ganges and the Niger. The elephant swims deep—so deep that the

* Williamson.

end of his trunk only is out of the water. With this instrument for breathing, he trusts himself fearlessly to his native rivers. In a state of captivity, he is somewhat more cautious; although a well-trained elephant will readily swim, or wade with his driver on his back. This situation is, however, sometimes one of danger to the rider; for the animal, regardless of the mohout, whom he has completely in his power, will sink his body greatly below the surface, having this faculty of breathing through the end of his trunk; and then the frightened driver has no resource but to stand upon his back.

Chapter III.

The structure of the elephant, exhibited in connexion with its natural habits;—continued.

The construction of the elephant's head indicates that its scent is remarkably acute. Anatomists point out the excellence of its organ of smelling, in the complicated formation of the ethmoid bone, and the largeness of the frontal sinuses *. As elephants live in troops, and yet must often disperse for the collection of their food, it is a necessary condition of their existence that they should have such an acuteness in the organs of smelling and hearing, as will enable them to gather together without difficulty. These organs are of more importance to them than that of sight; for in thick woods and high jungles, in which they generally abound, the eye would avail little in directing them to particular spots, either for food or society. The eye of the elephant is unusually small. This comparatively diminutive size of the eye assists in its protection from injury amidst the bushes where he seeks his food;—and it is provided with a nictitating membrane, by which he is enabled to free it from all small noxious substances, such as broken leaves and insects. Small as the eye is, it is by no means an imperfect organ; although he cannot direct its range above the level of his head. The trunk supplies the deficiency;—and the sense of smelling directs the organ of touch to such food as

* See Lawrence's and Coulson's Translation of Blumenbach, p. 272.

he gathers from trees. His sense of smelling is in all respects much more powerful than his sight. Sparmann, an African traveller, gives an example of this, in the adventure of a native who was chased by a large elephant, to his great terror, under circumstances where he fancied himself secure. His words, in describing his conviction of the elephant's powerful sense of smelling, were these:—"With respect to the place I was in at first, I am certain that the animal could not see me, and consequently, that he first found me out by the scent." Mr. Corse says that elephants discover a tiger-track readily, by the smell.

The structure of the elephant's ear has been investigated with great accuracy by Sir Everard Home *. The drum, and every other part of the organ, are much larger in proportion than in other quadrupeds, or in man; and there is a remarkable difference in the arrangement of the muscular fibres of the drum of the elephant's ear, when compared with man and some other quadrupeds. In the human ear, these fibres are radii of a circle; and in the horse, the hare, and the cat, they are of an uniform length. But in the elephant's ear these fibres are so placed, that some are more than double the length of others. Sir Everard Home argues from this remarkable construction, that the elephant has not a musical ear; but that it has a peculiar compensating power in this length of fibre, as its slower vibrations enable it to hear sounds at a greater distance: and this opinion is still further sustained by the structure of the different parts of the internal organ, more particularly the cells between the tables of the skull. Sir Everard Home illustrates his position that the elephant hears farther than other animals, and particularly that his hearing is more acute than that of man, by the following statements, which he gives upon the authority of Mr. Corse:—

* Comparative Anatomy, vol. iii. Lecture ix.

"A tame elephant, who was never reconciled to the sound of a horse moving behind him, although he expressed no uneasiness if the horse was either before or on one side within his view, could distinguish the sound of a horse's foot at a distance, some time before any person in company heard it. This was known by his pricking up his ears, quickening his pace, and turning his head from side to side.

"The cells in the skull of the elephant explain the sounds from the ground striking his ear with more force; and explain an assertion very generally believed, that an elephant, when he comes to a bridge, tries the strength of it by his foot, and if his ear is not satisfied with the vibration, nothing can induce him to pass over it.

"A tame female elephant, who had a young one, was occasionally sent out with other elephants for food, without the young one being allowed to follow. She was not in the habit of pining after her young one, unless she heard its voice; but frequently, on the road home, when no one could distinguish any sound whatever, she pricked up her ears, and made a noise expressive of having heard the call of her young. This, having occurred frequently, attracted Mr. Corse's notice, and made him, at the time when the female elephant used such expressions, stop the party, and desire the gentlemen to listen; but they were unable to hear anything till they had approached nearer to the place where the young elephant was kept."

That this acuteness of hearing was implanted in the elephant for a wise purpose, we can have no doubt; for in the whole animal creation we constantly find that means are adapted to ends—that no being is endowed with a peculiar power, without at the same time having a peculiar mode of employing it. As surely as the extraordinary scent of the lion

conducts him to his prey, and the more wonderful sight of the vulture informs him where the carcase has fallen, so is the acute organ of hearing in the elephant intended to promote some great object of his animal and social economy. Let it not be forgotten, that as he is by far the largest of terrestrial creatures, he would be constantly exposed to peril from his own enormous weight, unless he had senses delicate enough to avert this peculiar evil. That his organ of touch is exquisitely fine, we have already seen; and when this is conjoined with an equally sensitive organ of hearing, we can understand why the elephant so rarely treads upon surfaces which are unable to support him—why he equally avoids the pitfall and the slough—why, although he delights in water, and cannot comfortably exist in places where there are no opportunities of drinking and bathing at his pleasure, he is scarcely ever betrayed by the slimy ooze or the shifting sand, but seeks those rivers where the bottom is hard, and upon which he can stand as fearlessly as upon the gravelly plain. The elephant, as we have repeatedly mentioned, is a social animal; yet, from the quantity of provisions which each requires, the individual must often feed apart from the herd—the male separated from the female, the young from the old, the mother, perhaps, from her little one. But the elephant has an expressive organ of voice. The sounds which he utters have been distinguished, by his Asiatic keepers, into three kinds. The first, which is very shrill, and is produced by blowing through his trunk, is indicative of pleasure; the second, produced by the mouth, is a low note expressive of want; the third, proceeding from the throat, is a terrific roar of anger or revenge. It will be perceived why an animal, which in some degree owes its safety to its social qualities, and which, individually, is unwilling to engage in a contest with the

fiercer beasts of prey, should have the means of understanding, by the distant voice of its fellows, when there is a common danger at hand; and, at the same time, should have his organ of hearing sufficiently acute to distinguish the cry of hunger from the scream of terror, and both from the shrill pipe of satisfaction.

But the elephant may be endued with this acute hearing, in addition to his exquisite touch, for the protection of the lesser animals from the accidents to which they would be subject from lying in his path. He has an extraordinary dislike to all small quadrupeds. Dogs running near him produce a great annoyance; if a hare start from her cover, he is immediately alarmed; and that pigs are his aversion has been recorded by every naturalist, from Pliny to Buffon. It is even mentioned by Procopius, the historian of the Persian and Gothic wars, that, at the siege of Edessa, by Chosroes, King of Persia, in the time of Justinian, the besieged Greeks employed the cry of a pig to frighten from the walls the elephants of their enemy. The old naturalists explained this peculiarity by the doctrine of antipathies; in the same way that they affirmed that the elephant was fond of an ox, upon the principle of sympathies. It may appear something equally fanciful to suggest the possibility that the elephant may dislike the smaller animals to come in his way from his instinctive disinclination to destroy them, by an accidental tread. He always avoids a contest with inferior quadrupeds wherever he can; and if a helpless living creature, such as an infant or a wounded man, lie in his way, he will remove the object. The elephant is naturally gentle—anxious alone to procure his own food without molesting others. That he is so, is a merciful, as well as a wise dispensation. If he had possessed a

ferocity equal to his power, he must have exterminated a very large part of the animal creation.

Sir Everard Home is of opinion, that the elephant has not a musical ear; but, however this may be, the animal is evidently not insensible to musical sounds. We have observed the female elephant now at Mr. Cross's menagerie bring forward her ears, as the Guards have marched from the adjoining barrack to the loud notes of a military band; and the motions of her restless body have certainly been adapted to the movement of the air, which she gave evidence of having heard. Sir Everard Home presents us with an example of the power of the elephant to discriminate between the two great properties of musical sounds—a different capacity, certainly, from that of a musical ear, but still very remarkable:—

"As a matter of curiosity, I got Mr. Broadwood to send one of his tuners with a pianoforte to the menageries of wild beasts in Exeter Change, that I might know the effect of acute and grave sounds upon the ear of a full-grown elephant. The acute sounds seemed hardly to attract his notice; but as soon as the grave notes were struck, he became all attention, brought forward the large external ear, tried to discover where the sounds came from, remained in the attitude of listening, and after some time made noises by no means of dissatisfaction."

An experiment upon the musical capacity of the elephant was made upon the male and female of the Jardin des Plantes, in 1798. The result is described at great length in the "Décade Philosophique," a periodical work of that time; and, making every allowance for the apparent exaggerations of some of the statements, it seems tolerably certain that the elephants were differently affected by different pieces of music: although we may suspect that the en-

thusiasm of the musician had something to do with the assertion, that the tender air of *charmante Gabrielle* plunged them into a species of voluptuous languor, and that the lively movement of *ça ira* roused them to an extraordinary state of excitement. The whole narrative certainly adds some confirmation to the account which Ælian gives of the modulated dance of the elephants of Germanicus.

We have seen that the elephant rarely uses his trunk as a weapon. But nature has given him most formidable means for resisting his enemies. His tusks, or, as the French naturalists more properly call them, his *défenses*, enable him not only to clear his way through the thick forests in which he lives, by rooting up small trees and tearing down cross branches, in doing which service they effectually protect his face and proboscis from injury; but they qualify him for warding off the attacks of the wily tiger and the furious rhinoceros, often securing him the victory by one blow which transfixes the assailant to the earth. At particular seasons, when the passions of the male elephant are furiously excited, the more powerful of the herd will wound or destroy the weaker with their tusks. Mr. Corse thus saw a stately male elephant gore two small elephants, in the midst of the herd, in a terrific manner. "When the poor animals were thrown down, conscious of their impending fate, they roared most piteously; but notwithstanding their prostrate situation and submissive cries, he unfeelingly and deliberately drove his tusks through, and transfixed them to the ground*." Large male elephants, which in Hindostan are called *goondahs*, are often found wandering from the herd; and the natives believe that they are driven from the community as a punishment for their ferocious excesses. Mr. Corse, however, doubts this; and he

* Phil. Trans. 1799.

states that at the display of rage which he witnessed, "none of the large elephants, not even the dams of the sufferers, came near to relieve them."

Though the opinion has long been exploded that the elephant is unable to lie down, it is probable that, as he advances in age, he often sleeps in a standing posture. The popular notion was, according to Sir T. Brown, that "it sleepeth against a tree; which the hunters observing do saw it almost asunder; whereon the beast relying, by the fall of the tree falls also down itself, and is able to rise no more." When an elephant is first taken by the hunters, he will seldom lie down to sleep for several months; and some have been known obstinately to stand a year at the place where they were picketed. When they are sick, they pertinaciously stand as long as they are able; if they lie down, no hope of recovery remains*. We have seen that Mr. Cross's elephant would not lie down unless her keeper were in her den; and it is probable, that, in a wild state, when the elephant is at all disturbed or apprehensive of danger, he takes a short sleep standing, if he sleep at all. When he thus sleeps, it is most probable that his tusks furnish him a support; and that, placing them against a tree, he relieves the weight which his head carries, and enjoys a partial repose with tolerable ease. An example of this was given by the elephant of Louis XIV. For the last five years of his life he did not lie down, till he was sick; and "he employed his tusks in making two cavities in the two faces of a stone buttress which projected from the wall of his cell, and these cavities served him for a support when he slept, his tusks being fixed in them†."

The tusks of the elephant correspond with the canine teeth in other quadrupeds. It was an old opinion, which has been often refuted, that the tusks

* Williamson. † Perrault Mémoires, vol. ii. p. 512.

of elephants are horns. Although the substance of which they are composed, called ivory, is certainly different from the bone of other teeth, it is formed like other teeth by successive secretions from a pulpy root (*noyau*). The tusk has no adhesion to this root, but is held in its alveole (socket) as a nail is held in a plank, by the elasticity of the parts alone. The external direction of the tusk may be somewhat changed, by accident, or design, for this reason. The ivory is formed, from within, by depositions of very thin laminæ; so that the outer surface will continue to bear any mark which is scratched on it. Instances have repeatedly occurred of musket-balls having been found imbedded in the tusk of an elephant, without any visible external aperture; and this curious circumstance has given rise to some controversy among anatomists. Some have thought that the aperture was filled up by the organic force of the tusk; but it is likely, that in many cases, the foreign substance did not enter at the place where it was found. We have, however, a piece of ivory lying before us, in the solid substance of which a wrought-iron musket ball is imbedded, about an inch from the surface; and the place where the ball entered is distinctly seen, the aperture being, indeed, filled up by a new deposition, but having the appearance of a knot in a tree. This piece of ivory was cut in Mr. Hawkins's pianoforte manufactory, in 1805, and was lent to us by that gentleman. There are similar specimens in the Museum of the London University. A ball, or other hard substance, may penetrate the tusk at the hollow part, and descend into the solid, in a manner which is thus clearly explained: "If a ball penetrate the side of a tusk, cross the cavity, and lodge in the slightest way on the opposite side, it will become covered towards the

cavity by the newly deposited layers of ivory, while no opening will exist between it and the surface to account for its entrance. If it have only sufficient force to enter, it will probably sink, by its own weight, between the pulp and tooth, until it rests at the bottom of the cavity. It there becomes surrounded by new layers of ivory; and as the tusk is gradually worn away, and supplied by new depositions, it will soon be found in the centre of the solid part of the tooth. Lastly, a foreign body may enter the tusk from above, as the plate of bone which forms its socket is thin; and if this descends to the lower part of the cavity, it may become imbedded by the subsequent formations of ivory. This must have happened in a case where a spear-head was found in an elephant's tooth. The long axis of the foreign body corresponded to that of the cavity. No opening for its admission could be discovered; and it is very clear that no human strength could drive such a body through the side of a tusk*." In the section of the elephant's head, at p. 47, *e* exhibits the alveole of the tusk, and *f* its cavity opened, to shew the space which the pulp occupies.

The elephant has milk-tusks which he sheds between the first and second year, when not two inches in length. In a month or two after this process the permanent tusks cut the gum. These second tusks remain during the life of the animal; they are never again shed. The tusks of the Indian female are very small in comparison with those of the male; but they are used as weapons of defence against other elephants. The tusks of the male vary in size according to the species and the age of the animal. Those of the Indian elephant of Bengal rarely exceed seventy

* Phil. Trans. 1801; quoted in Lawrence's and Coulson's translation of Blumenbach.

pounds each in weight; though tusks have been brought to the India House weighing one hundred and fifty pounds each. Bernier saw two remarkable tusks in India, each of which was too heavy for a man to lift. Cuvier is of opinion that our knowledge of the African elephant, limited as it is, warrants us in concluding that the females of that species have large tusks; and that the disproportion of their size in the two sexes is far less than in the Indian species*. This opinion, however, is not borne out by travellers. Mr. Burchell ascribes the want of success of some elephant hunters whom he met with, to the circumstance of their having only encountered females with small tusks. Cuvier has published a table of the length, diameter, and weight of the largest tusks, whether of the Indian or African species, of which any account has been given. The largest on record was one sold at Amstersdam, according to Klokner, which weighed three hundred and fifty pounds. Several tusks, measured by Eden, were nine feet in length; and one described by Hartenfels, in his Elephantographia, exceeded fourteen feet. The largest in the Museum of Natural History at Paris is nearly seven feet in length, and about five inches and a half in diameter at the large end. As the tusks grow throughout the life of the animal, and the rest of the body does not, they offer no certain standard by which we can estimate the size of the elephant to which they have belonged. Nor can we establish any proportion between their diameter and their length, as they are liable to be worn at the points, according to the use which the animal makes of them. There is no relation, either, between their weight and their dimensions, as the cavity at the base is more or less filled, in particular individuals of the same species. The cur-

* Annales du Muséum, tom. viii. p. 131.

vature of the tusks is also subject to great variations. Some of the Indian elephants, with large teeth, called *Dauntelah*, have their tusks varying from a projecting horizontal but rather elevated curve, to a form almost straight. Those elephants which are called *Mooknah*, have their tusks pointing directly downwards. Several tusks are preserved in European cabinets, of the most remarkable form; some being spiral, and others, which are more common, in the shape of an italic *S*. It is probable, in the present day, when herds of elephants are scarce, as compared with times of less advanced civilization, and when those which are found are hunted for their ivory without remorse, that few elephants live the natural term of their life; and that the tusks, therefore, which come to Europe, are of smaller size than those possessed by the ancients. We shall examine this point in a subsequent chapter on the use of ivory by the ancients in architecture and sculpture.

The construction of the elephant's grinding teeth is one of the most striking examples of the adaptation of the teeth of every animal to its peculiar mode of subsistence. It is evident, that as the elephant has not a ruminating stomach, and yet requires vast quantities of vegetable food for his support, the instruments by which he masticates his food should be either more durable than in other herbivorous animals, or should be renewed when their grinding surfaces are worn away. The duration of the teeth of all quadrupeds is in proportion to their ordinary term of existence. In man, whose artificial modes of life may induce a quicker decay of the teeth, but who can supply the deficiency by the art which teaches him to prepare his food so as to suit his powers of mastication, the complete loss of teeth does not necessarily indicate a termination of life. But to an animal that feeds upon grass, and other indigestible vegetable substances,

the destruction of the teeth involves a speedy death; and therefore, in most cases, the decay of the teeth is simultaneous with a general decay. "The teeth of the deer and sheep are worn down in a much less time than fifteen years; those of horned cattle in twenty years; those of the horse in forty or fifty years; while those of the elephant last a century: if the animal were to grow to double its present size, there is a provision for the continuance of the teeth: but as soon as the growth of the jaw is stopped, the succession of the teeth is arrested also, which fixes the duration of the animal's life*." The provision which Nature has made for enabling the elephant to masticate not only a larger quantity of food than other animals, but through a much greater series of years —to wear his teeth more, and to wear them longer— is by securing their renewal when they are worn out.

To describe the peculiar manner in which this remarkable operation is effected would lead us into a description of the mode in which teeth generally are formed. To the anatomical student this branch of his science is singularly interesting; and on the subject of the elephant's teeth, he may find the most complete and satisfactory dissertations in Cuvier's admirable article, "Sur les machelières des éléphans†;" and in Sir Everard Home's Lecture on the Complex Teeth‡. For popular information we transcribe a passage of a very well-written paper on elephants, which had the advantage of Mr. Corse's revision, in Dr. Brewster's Edinburgh Encyclopædia:—

"The elephant has no cutting teeth in either jaw in front; but he is furnished with most powerful grinders, that enable him to bruise the vegetables on which he feeds. These teeth, as in all herbivorous animals, have an uneven surface; but do not rise

* Home's Comp. Anat. vol. i., p. 215.

† Ann. du Mus. tom. viii. p. 93. ‡ Comp. Anat. i. 203.

into points as in animals which feed on flesh. Each grinder is composed of a number of perpendicular laminæ, which may be considered as so many teeth, each covered with a strong enamel, and joined to one another by a bony substance of the same quality as ivory. This last substance, being much softer than the enamel, wears away faster by the mastication of the food, so that the enamel remains considerably higher; and, in this manner, the surface of each grinder acquires a ribbed appearance, as if originally formed with ridges. From very accurate observations which have been made on the Asiatic elephant, it appears, that the first set of grinders, or milk teeth, begin to cut the jaw eight or ten days after birth, and the grinders of the upper jaw appear before those of the lower one. These milk grinders are not shed, but are gradually worn away during the time the second set are coming forward, and as soon as the body of the grinder is nearly worn away, the fangs begin to be absorbed. From the end of the second to the beginning of the sixth year, the third set come gradually forward as the jaw lengthens, not only to fill up this additional space, but also to supply the place of the second set, which are, during the same period, gradually worn away, and have their fangs absorbed. From the beginning of the sixth, to the end of the ninth year, the fourth set of grinders come forward, to supply the gradual waste of the third set. In this manner, to the end of life, the elephant obtains a set of new teeth as the old ones become unfit for the mastication of his food.

"The milk grinders consist each of four teeth, or laminæ; the second set of grinders of eight or nine laminæ; the third set of twelve or thirteen; the fourth set of fifteen, and so on to the seventh or eighth set, when each grinder consists of twenty-two or twenty-three; and it may be added, that each suc-

ceeding grinder takes at least a year more than its predecessor to be completed."

In the cut at page 47 (*Section of the Elephant's skull*), *h* shews the anterior tooth reduced almost to nothing, by detrition, and by the compression of the succeeding tooth, and its own alveole. *i* shews the tooth in activity, the roots of which begin to form at *k;* the triturating part is already used on its face, *l*. The posterior laminæ are yet untouched. *n* is the germ of the back-tooth, still enclosed in its membranous cover (*capsule*), and lodged in a cavity of the back jaw *.

We have already mentioned an instance of the ferocity of the elephant under a peculiar state of excitement, as observed by Mr. Corse. This state is indicated in both sexes, and is probably in some degree relieved, by the secretion of a brownish juice from a considerable gland at the temple, through an opening in the skin. This aperture is situated between the ear and the eye, on each side of the head, and the gland is immediately under the skin, on each side also. The glands are as much as six inches in diameter, but the aperture is scarcely perceptible †. This peculiarity is noticed by Strabo; and the Indian mythology has seized upon the circumstance as the foundation for one of its fanciful devices:—"The Hindoo poets frequently allude to the fragrant juice which oozes, at certain seasons, from small ducts in the temples of the male elephant, and is useful in relieving him from the redundant moisture with which he is then oppressed; and they even describe the bees as allured by the scent, and mistaking it for that of the sweetest flowers. When Crishna visited Sanc'ha-dwip, and had destroyed the demon who

* For a more minute representation of these parts, see Annales du Muséum, tom. viii. pl. 41.

† Mémoires de L'Académie des Sciences, tom. iii.

infested that delightful country, he passed along the bank of a river, and was charmed with a delicious odour which its waters diffused in their course. He was eager to view the source of so fragrant a stream, but was informed by the natives that it flowed from the temples of an elephant, immensely large, milk-white, and beautifully formed; that he governed a numerous race of elephants; and the odoriferous fluid which exuded from his temples had formed the river*." This fable was probably one of the many modes in which Hinduism reverenced the reproductive power of Nature. A singular circumstance is mentioned by Mr. Cowper Rose,—that the natives of Africa often find a piece of wood in the elephant's head, to which they attach great value as a charm. Mr. Rose does not seem to have been acquainted with the uses of the gland just described, but his narrative explains the manner in which the wood enters the head—for enter it must. "I sat on one (a dead elephant) while they searched for the wood in his head. It lies about an inch beneath the skin, imbedded in fat, just above the eye, and has the appearance of a thorn, or a small piece of twig broken off. Some are without it; and on examining the spot minutely, we found that there was a small opening in the skin,—a large pore it may be; and I conceive that this phenomenon is simply accounted for by the twig breaking in this hole when the animal is in the act of rubbing his head against the bushes†."

The skin of the existing species of elephant has very little hair upon it; a fossil specimen has been found, in which the hair was very thick. The existing species are evidently adapted to live in hot climates; for with the exception of a few hairs on the legs, and

* Wilford, in Asiatic Researches, vol. iii.
† Four Years in Southern Africa, p. 236.

on the crown of the head, the animal has no covering over his skin to protect him from cold. The same deficiency makes him very sensible to heat, and particularly careful to defend himself from the annoyances of insects. The skin is generally smooth and soft; and becomes hard and knotty from disease, produced, probably, by an uncongenial temperature. Mr. P. Blair, in the account of his dissection of the Dundee elephant, says, "the cuticula was covered all over with a strange sort of scab, like short pieces of whalebone, much divided, but adhering fast: they were from one-sixteenth to one-sixth of an inch in length. I take them to be a distemper from the coldness of the climate *." The inconvenience of this want of hair, in hot climates, is lessened by the disposition of the animal to bathe. Bishop Heber has described this habit of the elephant, as he observed the enjoyment of a number upon his approach to Dacca:— "At the distance of about half a mile from these desolate palaces, a sound struck my ear, as if from the water itself on which we were riding, the most solemn and singular I can conceive. It was long, loud, deep, and tremulous, something between the bellowing of a bull and the blowing of a whale, or perhaps most like those roaring buoys which are placed at the mouths of some English harbours, in which the winds make a noise, to warn ships off them. 'Oh,' said Abdallah, 'there are elephants bathing; Dacca much place for elephant.' I looked immediately, and saw about twenty of these fine animals, with their heads and trunks just appearing above the water. Their bellowing it was which I had heard, and which the water conveyed to us with a finer effect than if we had been on shore †." The elephant also possesses the power of ejecting from his trunk, water and

* Phil. Trans. † Journal vol. i. p. 182.

dust, and his own saliva, over every part of his body. "Nature has provided the elephant with means to cool its heated surface, by enabling it to draw from its throat, by the aid of its trunk, a copious supply of saliva, which the animal spirts with force, very frequently all over its skin. It also grubs up dust, and blows it over its back and sides, to keep off the flies; and may often be seen fanning itself with a large bough, which it uses with great ease and dexterity *." Mr. Southey has described this habit of the elephant, in a natural state, in a passage of great beauty:—

"Trampling his path through wood and brake,
And canes which crackling fall before his way,
And tassel-grass, whose silvery feathers play
O'ertopping the young trees,
On comes the elephant, to slake
His thirst, at noon, in yon pellucid springs.
Lo! from his trunk upturn'd, aloft he flings
The grateful shower: and now
Plucking the broad-leav'd bough
Of yonder plume, with waving motion slow,
Fanning the languid air,
He waves it to and fro †.

As our knowledge of the growth of the elephant has been acquired from those which have either been bred, or born, in captivity, we shall reserve this portion of our subject for the next chapter.

The ancients, according to Philostratus, were inclined to think that the elephant lived more than four hundred years. They founded this belief upon the authority of a story of one with a particular mark having been captured by Juba, King of Lydia, four hundred years after a battle, in which the animal had fled to Mount Atlas. This is not grounded upon a sufficiently accurate chronology to command our belief. Tavernier appears to have

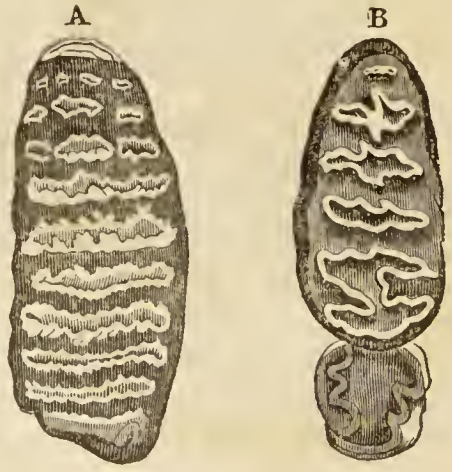
* Oriental Sports. † Curse of Kehama, xiii.

had tolerable evidence, from the accounts of the keepers of elephants in India, that particular individuals had been in captivity from one hundred to one hundred and thirty years. The elephant is, doubtless, a very long lived animal; and the provision for the renewal of its teeth shews that the Author of Nature intended that his abode on this earth should be, in comparison with other quadrupeds, and even with man, a prolonged existence. Pliny, upon the authority of Aristotle, states that the elephant lived two or three hundred years; and the Romans, in the time of Gordian, in the spirit of poetical exaggeration, chose an elephant for the symbol of eternity*.

* Sallengre Thesaurus, tom. iii. p. 212. The above, medal was struck in honour of Tranquillina, the wife of Gordian. Cuper thinks that the legend "Æternitas Aug." is expressive of a wish for the long continuance of the reign of the emperor—as long even as the life of the elephant.

We are principally indebted to the accurate researches of Cuvier for the determination of the specific differences of the Indian and the African elephant. Neither Buffon nor Linnæus conceived that there was more than one species; and, until the time of Camper, the remarkable distinction in the structure of the teeth of the two species was entirely unobserved.

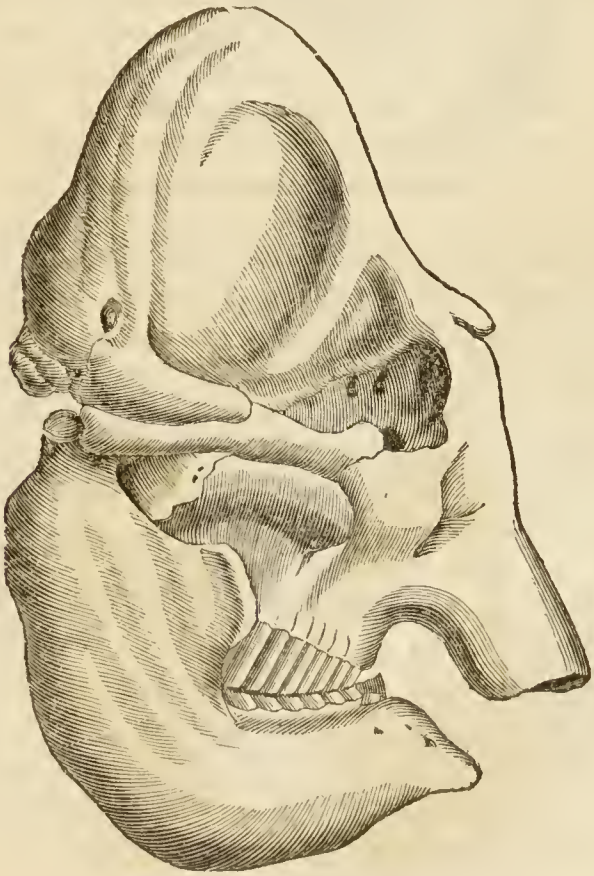
This distinction, to which, in all cases, naturalists properly attach great importance, may be observed in the germs of the molar teeth; and from the peculiar conformation of these germs, when the tooth has been used, its surface presents, in the Indian species, a series of narrow transverse ribands, of an equal size, whose edges are, as it were, scolloped; while in the African species the ribands assume a lozenge form,—that is, they are larger in the middle than at the ends, and the edges are rarely scolloped. The laminæ being larger in the African species than in the Indian, a smaller number are required to form a tooth,—nine or ten uniting to complete a tooth of the one species as large as one composed of thirteen or fourteen laminæ in the other*.



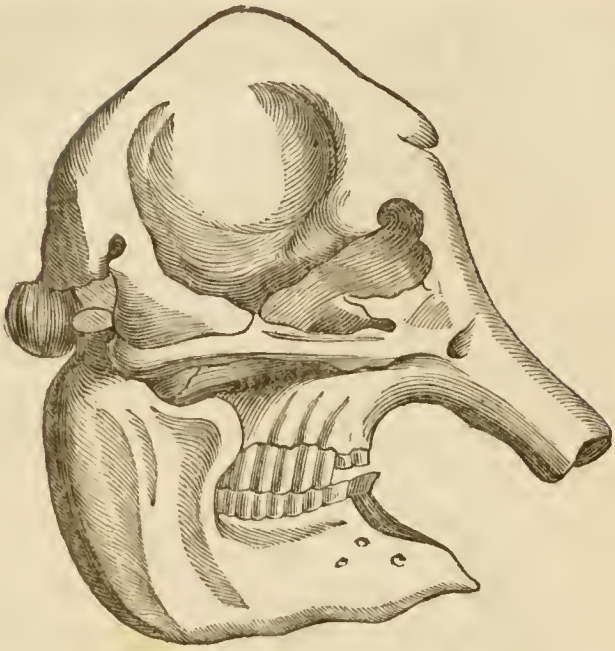
Cheek teeth: A, *of the Indian species;* B, *of the African.*

* Annales du Muséum, tom. viii. p. 123.

But the distinctions of the two species are evident enough without an examination of the molar teeth. Cuvier first pointed out, in 1795, the distinctive characters of their heads. In the Indian species the summit of the head forms a sort of pyramid; in the African it is almost round. The front of the head in the Indian species is concave; in the African it is somewhat convex. There are many other differences in the structure of the head, which are highly interesting to comparative anatomists, but which we could not easily point out without the use of scientific terms. The general differences will be readily seen by a comparison of the two skulls.



Skull of the Indian Elephant.



Skull of the African Elephant.

The most striking difference of each species is, however, exhibited in the dimensions of the ears. In the Indian elephant the ear is of a moderate size; in the African it is enormous, and covers the shoulder. In the cabinet of the King of Denmark there is the ear of an elephant, shot at the Cape of Good Hope in 1675, which is three feet and a half long, by two feet and a half wide. Mr. Pringle informs us that it is not uncommon in Southern Africa to see the natives using the ear of an elephant as a sort of truck, upon which they drag manure, and other loads.

Chapter IV.

THE INDIAN ELEPHANT. FERTILITY IN A STATE OF CONFINEMENT. GROWTH. MODES OF TAKING WILD ELEPHANTS IN ASIA.

We have already noticed the assertion of Ælian, that elephants were bred at Rome; and Columella, a writer on rural affairs, distinctly says, "within our own walls (Rome) we have seen elephants born *." In India it was thought unlucky to allow tame elephants to breed; but the Emperor Akber overcame this scruple †. The custom, however, evidently went into disuse; for Tavernier, and other oriental travellers, were not only ignorant of the fact, but expressly asserted that the circumstance never took place. Upon this inaccurate information many writers on natural history founded a theory that the proud elephant refused to multiply slaves for the use of man. The experiments of Mr. Corse have, however, completely set this question at rest; and though it is probable, as long as elephants are sufficiently numerous to be taken in herds, that the greater expence of breeding them will discourage any attempts to continue the species under the direction of man, there is no doubt, if it were desirable, that the elephant might be improved in size, strength, and activity, exactly in the same manner that the horse of England has been rendered so superior in power and swiftness to the horse in a state of nature, by a judicious intermixture of various races.

The ordinary period of gestation in the elephant is

* De Re Rustica, lib. iii. cap. 8. † Ayeen Akbery, vol. i.

twenty months and eighteen days. This point has been established by the observations of Mr. Corse. The young elephant at its birth is about thirty-five inches high. In the first year he grows about eleven inches; in the second eight; in the third six; in the fourth five; in the fifth five; in the sixth three and a half; and in the seventh two and a half. Mr. Corse thinks that elephants attain their full size between eighteen and twenty-four years of age; though other writers, reasoning from the duration of life, believe that the animal continues to increase in size, when in a state of nature, for nearly double that period.

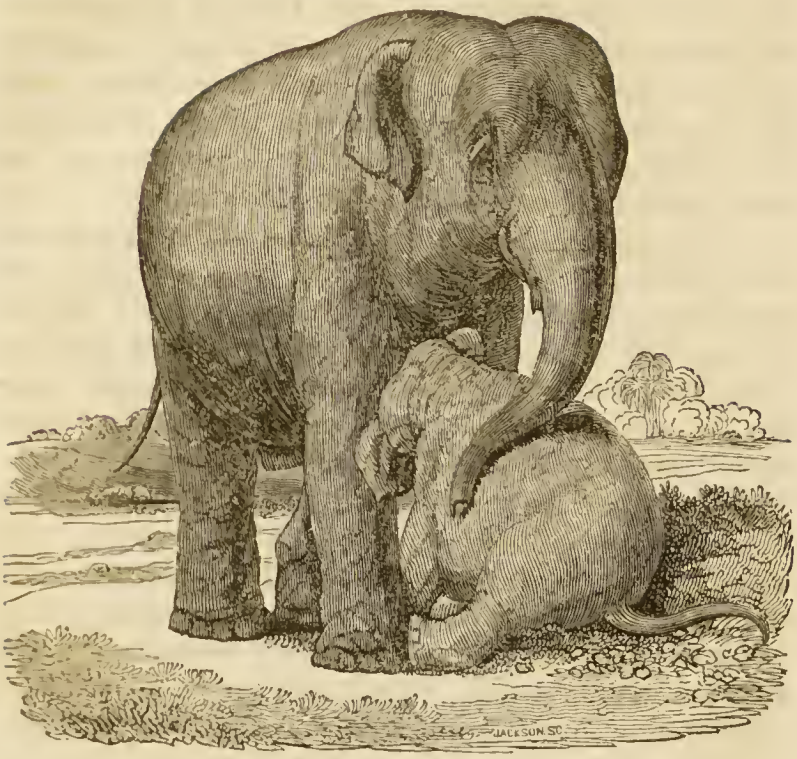
Mr. Ranking, who was resident many years in Hindostan, "saw an elephant in Bengal when it was only eighteen hours old. It was about thirty-three inches high, weak and tottering, but very playful, twisting in its proboscis a few blades of large grass*." That the young elephant sucks with its mouth is now distinctly ascertained. It is somewhat a humiliating reflection for the pride of human knowledge, which grasps at so many things beyond the limits of reason, and is lamentably ignorant of some of the commonest circumstances that happen on the earth, that a point apparently so simple should long have remained in doubt; and that several of the most deservedly popular writers should have maintained that the young of the elephant did, in this particular, exactly what it does not, and were ready to establish their position by the most incontrovertible theories. The pertinacity of those who speculate on events without evidence, and who support their speculations even against the most distinct evidence, is curiously exemplified in M. Houel's account of the habits of the elephant; for

* Wars and Sports of the Mongols, &c., p. 444.

he refuses to believe M. le Vaillant's narrative of his own observation of the young elephant sucking with his mouth, because Perrault and Buffon had asserted the contrary, upon the soundest analogies! Mr. Corse's account of the actual process is the most precise which we have met with.

"The young of the elephant, at least all those I have seen, begin to nibble and suck the breast soon after birth, pressing it with the trunk, which by natural instinct they know will make the milk flow more readily into the mouth, while sucking. Elephants never lie down to give their young ones suck; and it often happens, when the dam is tall, that she is obliged for some time to bend her body towards her young, to enable him to reach the nipple with his mouth: consequently, if ever the trunk was used to lay hold of the nipple it would be at this period, when he is making laborious efforts to reach it with his mouth, but which he could always easily do with his trunk, if it answered the purpose. In sucking, the young elephant always grasps the nipple, which projects horizontally from the breast, with the side of his mouth. I have very often observed this; and so sensible are the attendants of it, that with them it is a common practice to raise a small mound of earth, about six or eight inches high, for the young one to stand on, and thus save the mother the trouble of bending her body every time she gives suck, which she cannot readily do when tied to her picket*." M. Foucher d'Obsonville, who had also observed the young elephant playing with the teat of the mother with his trunk, attributes the prevalent error to this circumstance. Mr. Williamson says, that the position of the two breasts of the female enables the young one

* Phil. Trans. 1799.



(technically called a calf) to suck as it runs along by the side of the mother, or even under her belly*.

The affection of the female elephant for her young has been denied by some writers. Mr. Williamson, however, gives an anecdote which contradicts this opinion. He says, "a female elephant will trust her young with great confidence among the human species, but is very jealous of all brutes. If, however, they suspect any trick, or perceive any danger, they become ungovernable. I recollect being one of many who were seated at the top of a flight of stone steps at the entrance into the Great House at Secrole, and had enticed the calf of a very fine, good-tempered elephant feeding below to ascend towards us. When

* Oriental Field Sports, p. 43.

she had nearly got up the steps her foot slipped, and she was in danger of falling; which being perceived by the mother, she darted to save the rambler, sending forth a most terrific roar, and with such a significant eye as made us all tremble. She guided the descent of her little one with wonderful caution, none of us feeling the least disposition to offer any aid on the occasion*." Captain Knox, who was detained for twenty years a captive in Ceylon, says, "As the Chingalays report, they bear the greatest love to their young of all irrational creatures; for the shes are alike tender of any one's young ones as of their own. Where there are many she-elephants together, the young ones go and suck of any, as well as of their mothers: and if a young one be in distress, and should cry out, they will all in general run to the help and aid thereof; and if they be going over a river, as here be some somewhat broad, and the streams run very swift, they will all with their trunks assist and help to convey the young ones over†."

The calf of the elephant, like the young of every animal, follows its mother with great perseverance; although he is ready enough to frisk about in his rude way, and especially to play with children, as if he had the lightness of a kid. These sports may remind us of the assembly of "all beasts of th' earth" before our common parents in Eden, when

> "th' unwieldy elephant
> To make them mirth used all his might ‡."

Mr. Williamson says, "the calves are extremely playful, but possess great strength, rendering their gambols rather dangerous;" and Tavernier has an agreeable passage describing their mode of play.

* Oriental Field Sports, p. 43.
† Historical Relation of Ceylon, chap. vi.
‡ Paradise Lost, book iv.

"When merchants bring elephants to any place for sale, 'tis a pleasant sight to see them go along. There are old and young together, and when the old are gone by, the children run after the little ones, and leap upon their backs, giving them something to eat; but perceiving their dams are gone forward, they throw the children off, without hurting them, and double their pace*."

The young elephants which are reared in our Indian settlements are principally produced by the females that are taken wild at the time they are in calf. It does not appear that there is any difficulty in the education of these little ones, who are accustomed to a domestic state from their birth; but that they are gradually accustomed to bear burthens, and to become obedient to the commands of their keepers. In the kingdom of Ava, where the female elephants belonging to the king are in a state of half wildness, there is considerable trouble in reducing the young ones to submission. Mr. Crawfurd, who was the British envoy to the court of Ava in 1827, has given an account of this curious operation:

"The young male elephants are weaned at three years old,—that is to say, they are then separated from their dams, and broken in,—a process which appears to be nearly as tedious and difficult as that of breaking in a full-grown elephant taken in the forest. A singular ceremony was performed before this process commenced, which deserves mention:—It consisted of an invocation to the Nat Udin-main-so, the genius of elephant hunting. Between the walls of the town and an artificial mount planted with trees, and raised upon a ledge of rocks, jetting into the Irawadi, there is a small elephant paddock, consisting of a single square palisade having no gates.

* Tavernier's Travels, part ii. book 1.

The king sat under a little pavillion on the side of the mount, and directed in person the ceremony to which I allude. A banana tree had been planted in the middle of the paddock, which was removed with great ceremony; and on the spot where it stood, five elderly persons came forward, with a solemn strut and dance, holding in their hands branches of a species of eugenia or jambu, and carrying offerings of rice and sweetmeats to the Nat. I could not learn the exact words of the incantation; but the substance of it was, that the demi-god was informed that a glorious prince, the descendant of great kings, presided at the present ceremony; that he, the demi-god, therefore, was requested to be propitious to it, to get the elephants quietly into the pen, and generally to lend his aid throughout the whole ceremony. About two-and-thirty female elephants, with their young included, were now driven into the inclosure: they were shortly followed by four male elephants, the riders of which had long ropes, with a noose at the end, in their hands. After many unsuccessful efforts, they succeeded at last in entangling the young elephant that was to be weaned, by the hind leg. This was a matter of great difficulty, for he was protected by the adroitness of the herd of female elephants which crowded round him for the purpose. When taken, he was a great deal more outrageous and obstreperous than the wild elephant caught yesterday. The large mounted elephants had to beat him frequently; and I observed, once or twice, that they raised him quite off the ground with their tusks, without doing him any material injury. The cry which he emitted on these occasions differed in no way but in degree from the squeak of a hog that is in pain or fear. He was ultimately confined in a small pen beyond one of the doors of the paddock, where two of the male elephants continued to watch

him. He was still very outrageous, and making violent efforts to extricate himself, but all to little purpose*."

The various modes of capturing wild elephants in India have undergone little variation for several centuries; and they are, more or less, practised in all parts of Asia where elephants are still required to maintain the splendour of Oriental luxury,—to assist in the pomp and administer to the pride of despotic monarchs; or, as is the case in our own Eastern establishments, to bear the heavy equipage of an Indian camp, or to labour in the peaceful occupations of transporting those articles of commerce, which are far too weighty to be moved by the power of the horse or the camel.

As civilization has advanced in India, the supply of wild elephants has necessarily diminished. In the time of Baber the herds were described as inhabiting "the district of Kalpi; and the higher you advance from thence towards the east, the more do the wild elephants increase in number. That is the tract in which the elephant is chiefly taken. There may be thirty or forty villages in Karrah and Manikpûr that are occupied solely in this employment of taking elephants." The learned translators of these memoirs, Dr. Leyden and Mr. Erskine, say, in a note to this passage, "the improvement of Hindûstan since Baber's time must be prodigious. The wild elephant is now confined to the forests under Hemlâa, and to the Ghats of Malabar. A wild elephant near Karrah (Currah), Manikpûr, or Kalpi, is a thing, at the present day, totally unknown. May not their familiar existence in these countries, down to Baber's days, be considered as rather hostile to the accounts given of the superabundant population of Hindûstan

* Crawfurd's Embassy to Ava, p. 304.

in remote times*." In another passage Baber says, "in the jungle round Chûnar there are many elephants;"—and the translators add, "no wild elephants are ever found now in that quarter, or nearer than the hills†." As we have before stated, the herds of wild elephants must be chiefly sought for in a depopulated country. Marco-Polo, speaking of the plain at the foot of the Yun-nan mountains, in China, says, "The journey" (to the city of Mien, towards the confines of India,) "occupies fifteen days, through a country much depopulated, and forests abounding with elephants, rhinoceroses, and other wild beasts, where there is not the appearance of any habitation‡." Thus, in the early part of the Mogul sway in India, when a dense population was collected round the courts of the native despots, while immense districts were almost exclusively possessed by the elephants, the numbers which were taken to be employed in war, or to swell the cumbrous pomp of such conquerors as Kublai Khan, and Timour, were almost incredible. Purchas says, "William Clarke, which served the Mogul divers years in his wars, saith that he hath seen in one army twenty thousand elephants, whereof four thousand for war; the rest females for burthens, young, &c. §" Captain Hawkins, who was at Agra in 1607, says that Jehanghir had twelve thousand elephants. The Emperor Akbar *daily* gave presents of elephants. These accounts, however exaggerated they may seem, at least shew that immense quantities of wild elephants must have been taken throughout India to maintain these enormous establishments. The introduction of fire-arms into warfare has rendered the elephant useless to an army, except for

* Memoirs of Baber, p. 315. † Ib. p. 407.
‡ Marco Polo's Travels, by Marsden, p. 447.
§ Pilgrimage, book v. chap. 13.

transporting heavy burthens ;—and the subjection of the most powerful of the native princes to the British dominion has overthrown much of that magnificent display in which the elephant performed so stately a part. The change, however, was not sudden, nor is it complete. The employment of the elephant is gradually ceasing, as the Oriental dynasties one by one fall before European skill, and as the manners of their courts, retaining little of the shew and less of the substance of power, have yielded to the simpler forms of European authority. But even as recently as 1794 the Nabob of Oude went upon a hunting expedition with a thousand elephants ;—and in our own days the glory of the Burman empire is as inseparably connected with the possession of the "white elephant," and its pomp as much displayed in elephant fights and elephant processions, as it was before the period when a handful of merchants established themselves upon the coasts of India, destined in little more than a century to overthrow the greater number of the native dynasties, by bringing the compact and ever-active power of the highest civilization into conflict with the scattered and inert force of semi-barbarous tyrannies, unchanging because uninstructed, oppressed by their own weight, and feeble through their own disunion.

When we consider the enormous strength of the elephant, which enables him to break through all ordinary means of confinement, and at the same time regard not only his ability to resist any violent attack, but his sagacity to elude any common stratagem, it must be evident that the business of his capture must be a task requiring equal courage and activity,—great skill and presence of mind in the individuals engaged in it,—and, when conducted upon a large scale, a combination of human force such as is seldom used except in the more prodigal game of war. A de-

scription, therefore, of the various modes in which this powerful animal is subjected to man must necessarily embrace many interesting details connected with the economy of the quadruped; and at the same time exhibit many traits of ingenuity and perseverance, as remarkable as any which are shewn by the human mind in other extraordinary situations.

Pliny, describing the manner of capturing elephants in India, says, "The hunter mounts on an elephant already tamed;—and when he meets with a wild one separated from the herd, he pursues it, and strikes it until it is so exhausted that he is able to leap from the one to the other, and thus to reduce the wild animal to obedience*." This process is as summary as that which the Roman naturalist also notices as the practice of the Troglodytes, whom Diodorus Siculus by an expressive epithet describes as warring against the elephants. These are said to suspend themselves on the branches of trees under which the wild herd passes, and, slipping down over the crupper of a particular animal, to seize his tail with the one hand and ham-string him with the other. Although the elephant is destroyed by an experienced African marksman with much more precision than by this process of cutting his hams, he is certainly not reduced to obedience so quickly by the Indian hunters of the present day, as by those whom Pliny has described as bringing him into captivity. But the operation, however slow, is at least effective;—and the discipline does not require a constant repetition, as there is no doubt that the mere process of beating must have required, even if it could have been performed without danger. The various modes which are employed in India, and the adjacent islands, for keeping up the supply of elephants for domestic

* Nat. Hist. lib. viii. cap. 8.

use, are much more complicated than the Roman naturalist appears to have thought necessary; and these modes are followed up by a steady application of mild coercion, which at length effectually converts the unwieldy force of the huge quadruped into a machine, nearly as precise and obedient as one of those many ingenious inventions of modern times which have so greatly dispensed with the irregular movements of animal power.

The rudest mode of taking the elephant is by digging a pit in his native forests, which is covered over with loose boards and the boughs and grass upon which he feeds. This is mentioned as the custom of Ceylon a century ago*;—and the Sieur Brue describes this as the mode of taking the elephant, for his flesh, by the Africans of Senegal †. Mr. Williamson states that in places where the natives find the elephants destructive neighbours, they dig a pit, covered with a slight platform of branches and grass, towards which the herd is seduced by a tame elephant, when the leading pursuer is precipitated into the trap, and the remainder retire in great alarm. This practice is evidently not very successful;—and we apprehend that the instinctive caution of the elephant not to tread upon any insecure ground must render it unavailing, except when his natural prudence gives way to the more powerful impulses of terror or desire. "The mode of getting elephants out of pits," according to Mr. Williamson, "is somewhat curious, but extremely simple. The animal is for the most part retained until sufficiently tractable to be conducted forth; when large bundles of jungle-grass tied up into sheaves being thrown to him, he is gradually brought to the surface, at least to such

* Recueil des Voyages de la Compagnie des Indes.
† Hist. Gen. des Voyages, tom. ii.

an elevation as may enable him to step out." The elephant will do the same if he is swamped in boggy ground, thrusting the bundles of grass and straw into the yielding earth with his heavy feet, and placing them so around him with his trunk that he at last obtains a firm footing. Pliny, who mentions the manner of taking elephants in pits, says, that the companions of the unfortunate animal who is thus captured will throw branches and masses of earth into the hole to assist his deliverance. This appears somewhat incredible;—but we are enabled to confirm, by an anecdote which has been published by Mr. Pringle, the disposition of these animals to assist a suffering companion:—

"In the year 1821, during one of my excursions in the interior of the Cape Colony, I happened to spend a few days at the Moravian Missionary settlement of Enon, or White River. This place is situated in a wild but beautiful valley, near the foot of the Zuurberg mountains, in the district of Uitenhage, and is surrounded on every side by extensive forests of evergreens, in which numerous herds of elephants still find food and shelter. From having been frequently hunted by the Boors and Hottentots, these animals are become so shy as scarcely ever to be seen during the day except among the most remote and inaccessible ravines and jungles; but in the night they frequently issue forth in large troops, and range in search of food, through the inhabited farms in the White River Valley; and on such occasions they sometimes revenge the wrongs of their race upon the settlers who have taken possession of their ancient haunts, by pulling up fruit trees, treading down gardens and corn-fields, breaking their ploughs, waggons, and so forth. I do not mean, however, to affirm that the elephants really do all this mischief from feelings of revenge, or with the direct intention of annoying

their human persecutors. They pull up the trees, probably, because they want to browse on their soft roots, and they demolish the agricultural implements merely because they happen to be in their way. But what I am now about to state assuredly indicates no ordinary intelligence. A few days before my arrival at Enon, a troop of elephants came down one dark and rainy night, close to the outskirts of the village. The missionaries heard them bellowing and making an extraordinary noise for a long time at the upper end of their orchard; but knowing well how dangerous it is to encounter these powerful animals in the night, they kept close within their houses till daylight. Next morning, on their examining the spot where they had heard the elephants, they discovered the cause of all this nocturnal uproar. There was at this spot a ditch or trench, about four or five feet in width, and nearly fourteen feet in depth, which the industrious missionaries had recently cut through the bank of the river, on purpose to lead out the water to irrigate some part of their garden ground, and to drive a corn mill. Into this trench, which was still unfinished and without water, one of the elephants had evidently fallen, for the marks of his feet were distinctly visible at the bottom, as well as the impress of his huge body on its sides. How he had got into it was easy to conjecture; but how, being once in, he had ever contrived to get out again, was the marvel. By his own unaided efforts it was obviously impossible for such an animal to have extricated himself. Could his comrades, then, have assisted him? There can be no question that they had—though by what means, unless by hauling him out with their trunks, it would not be easy to conjecture. And in corroboration of this supposition, on examining the spot myself, I found the edges of this trench deeply indented with numerous vestiges, as if the

other elephants had stationed themselves on either side, some of them kneeling and others on their feet, and had thus by united efforts, and probably after many failures, hoisted their unlucky brother out of the pit."

However unfrequent may be such instances of intelligent compassion amongst elephants, it is undoubted that the sagacity of the animal enables him to perceive that he may escape from the perilous confinement of a deep pit, if he is supplied with the means of raising his enormous body nearly to the surface of the ground. A very curious anecdote, which not only illustrates this instinctive knowledge, but exemplifies the general exercise of the mental power of the "half-reasoning" animal, is given in a recent work on zoology *.

"At the siege of Bhurtpore in the year 1805, an affair occurred between two elephants, which displays at once the character and mental capability, the passions, cunning, and resources of these curious animals. The British army, with its countless host of followers and attendants, and thousands of cattle, had been for a long time before the city, when, on the approach of the hot season, and of the dry hot winds, the supply of water in the neighbourhood of the camps necessary for the supply of so many beings began to fail; the ponds or tanks had dried up, and no more water was left than the immense wells of the country would furnish. The multitude of men and cattle that were unceasingly at the wells, particularly the largest, occasioned no little struggle for the priority in procuring the supply for which each were there to seek, and the consequent confusion on the spot was frequently very considerable. On one occasion, two elephant drivers, each with his elephant, the one

* Cuvier's Animal Kingdom, by Griffiths, vol. iii. p. 376.

remarkably large and strong, and the other comparatively small and weak, were at the well together; the small elephant had been provided by his master with a bucket for the occasion, which he carried at the end of his proboscis; but the larger animal being destitute of this necessary vessel, either spontaneously or by desire of his keeper, seized the bucket, and easily wrested it away from his less powerful fellow-servant: the latter was too sensible of his inferiority, openly to resent the insult, though it is obvious that he felt it; but great squabbling and abuse ensued between the keepers. At length, the weaker animal, watching the opportunity when the other was standing with his side to the well, retired backwards a few paces in a very quiet, unsuspicious manner, and then rushing forward with all his might, drove his head against the side of the other, and fairly pushed him into the well.

"It may easily be imagined that great inconvenience was immediately experienced, and serious apprehensions quickly followed, that the water in the well, on which the existence of so many seemed in a great measure to depend, would be spoiled, or at least injured by the unwieldy brute which was precipitated into it; and as the surface of the water was nearly twenty feet below the common level, there did not appear to be any means that could be adopted to get the animal out by main force, at least without injuring him: there were many feet of water below the elephant, who floated with ease on its surface, and experiencing considerable pleasure from his cool retreat, evinced but little inclination even to exert what means he might possess in himself of escape.

"A vast number of fascines had been employed by the army in conducting the siege, and at length it occurred to the elephant keeper, that a sufficient number of these (which may be compared to bundles

of wood) might be lowered into the well to make a pile, which might be raised to the top, if the animal could be instructed as to the necessary means of laying them in regular succession under his feet. Permission having been obtained from the engineer officers to use the fascines, which were at the time put away in several piles of very considerable height, the keeper had to teach the elephant the lesson, which by means of that extraordinary ascendency these men attain over the elephants, joined with the intellectual resources of the animal itself, he was soon enabled to do, and the elephant began quickly to place each fascine as it was lowered to him, successively under him, until in a little time he was enabled to stand upon them; by this time, however, the cunning brute, enjoying the pleasure of his situation, after the heat and partial privation of water to which he had been lately exposed, (they are observed in their natural state to frequent rivers, and to swim very often,) was unwilling to work any longer, and all the threats of his keeper could not induce him to place another fascine. The man then opposed cunning to cunning, and began to caress and praise the elephant, and what he could not effect by threats he was enabled to do by the repeated promise of plenty of rack. Incited by this the animal again went to work, raised himself considerably higher, until, by a partial removal of the masonry round the top of the well, he was enabled to step out: the whole affair occupied about fourteen hours."

In Nepaul, and in the countries bordering on the northern frontiers of India, where the elephants are of a small size, they are often captured by the natives with a *phaun*, or slip-knot. This practice has some analogy with the custom of taking horses with the *lasso*, in the Pampas. The hunter, seated on a docile elephant, round whose body the cord is fastened,

singles out one from the wild herd; and cautiously approaching, throws his pliable rope in such a manner that it rests behind the ears, and over the brows of the animal pursued. He instinctively curls up his trunk, making an effort to remove the rope; which, with great adroitness on the part of the hunter, is then passed forward over the neck. Another hunter next comes up, who repeats the process; and thus the creature is held by the two tame elephants, to whom the *phauns* are attached, till his strength is exhausted. It would appear quite impossible to take a large elephant in this manner; although, with those of a peculiarly small breed, the operation does not appear more difficult than that of securing the wild horse or the buffalo in the plains of South America*.

It is remarkable, that in every mode of capturing the wild elephant, man avails himself of the docility of individuals of the same species, which he has already subdued. Birds may be taught to assist in ensnaring other birds; but this is simply an effect of habit. The elephant, on the contrary, has an evident desire to join its master in subduing its own race; and in this treachery to its kind, exercises so much ingenuity, courage, and perseverance, that we cannot find a parallel instance of complete subjection to the will of him to whom it was given to "have dominion over the fish of the sea, and over the fowl of the air, and over every living thing that moveth upon the earth."

From some peculiar circumstances which have not been accurately explained, large male elephants are sometimes found apart from the herd. Sir Stamford Raffles says, speaking of the elephants that he met with in his journey through the southern Presidencies

* See Williamson's Sports, p. 39.

to Passumah, "The natives fancy that there are two kinds of elephants,—the gaja *berkampong*, those which always go in herds, and which are seldom mischievous, and the gaja *salunggal*, or single elephants, which are much larger and ferocious, going about either singly or only two or three in company. It is probable the latter kind are only the full-grown males*." They probably, in many cases, separate themselves from their companions in search of fresh pastures. But as they are sometimes found in a state of considerable irritation, doing much mischief wherever they pass, it has been thought that these have been driven away by the stronger males, and that they are suffering all the agonies of unavailing jealousy. Being the finest elephants, and therefore the best adapted for sale, the hunters soon mark them for their own. They follow them cautiously by day and by night, with two, and sometimes four trained females, called *Koomkies*. If it be dark they can hear the animal striking his food, to clean it, against his fore legs, and they then approach tolerably close;—if light, they advance more cautiously. The females gradually move towards him, apparently unconscious of his presence, grazing with great complacency, as if they were, like him, inhabitants of the wild forest. It is soon perceived by them whether he is likely to be entrapped by their arts. The drivers remain concealed at a little distance, while the *koomkies* press round the unhappy *goondah*, or *saun*, (for so this sort of elephant is called). If he abandon himself to the caresses of his new companions, his capture is almost certain. The hunters cautiously creep under him, and during the intoxication of his pleasure, fasten his fore-legs with a strong rope. It is said that the wily females

* Sir Stamford Raffles' Life and Correspondence, p. 315.

Wild Elephant captured by means of decoy Female Elephants.

will not only divert his attention from their *mohouts*, but absolutely assist them in fastening the cords. Mr. Howitt made a spirited drawing of this curious scene, from the descriptions of Captain Williamson.

The hind-legs of the captive being secured in a similar manner, the hunters leave him to himself, and retire to a short distance. In some cases he is fastened at once to a large tree, if the situation in which he is first entrapped allows this. But under other circumstances, in the first instance his legs are only tied together. When the females quit him he discovers his ignominious condition, and attempts to retreat to the covert of the forest. But he moves with difficulty, in consequence of the ropes which have been lashed round his limbs. There are long cables trailing behind him; and the mohauts, watching an opportunity, secure these to a tree of sufficient strength. He now becomes furious, throwing himself down, and thrusting his tusks into the earth. If he break the cables, and escape into the forest, the hunters dare not pursue him; but if he is adequately bound, he soon becomes exhausted with his own rage. He is then left to the further operation of hunger, till he is sufficiently subdued to be conducted, under the escort of his treacherous friends, to an appointed station, to which, after a few months' discipline, he becomes reconciled *.

In the kingdom of Ava all the elephants are caught by decoy females, though the process is somewhat different from that practised by the Koomkies of British India. Mr. Crawfurd informs us that the King of Ava "is possessed, in all, of about one thousand elephants, divided into two classes: those which are thoroughly broken in and tamed, consisting prin-

* See Williamson's Sports;—and Mr. Corse's paper in the Asiatic Transactions, vol. iii.

Wild Elephant left after having been bound.

cipally of males; and those that are employed as decoys, all females, and in a half-wild state." These decoys are generally kept in the neighbourhood of forests frequented by elephants;—and when the herd is joined by a wild male, they are all driven into the capital, to a place called the elephant palace, "appropriated for exhibiting, for the king's diversion, the taming of the wild male elephant. This place is a square inclosure, surrounded everywhere by a double palisade, composed of immense beams of teak timber, each equal in diameter to the main-mast of a four-hundred-ton ship. Between the palisades there is a stone wall, about fourteen feet high and twenty thick. On the top of this the spectators are seated to view the sport. . . . The inclosure has two entrances; the gates of which are composed of beams, which can be moved at the bottom by means of ropes." We shall extract Mr. Crawfurd's amusing description of the scene which took place in this enclosure:—

"A cloud of dust announced the approach of the elephants, about twenty in number: these, with the exception of the captive, were all females, several of them with their young following them. A few of the best broken-in only were mounted. Partly by persuasion, and partly by force, these were seen driving before them a small male elephant, not, as we were told, above thirteen years old: it required at least half an hour to induce him to enter the gate of the inclosure. A very docile female elephant led the way, conducted by her keeper; but the half-tamed females were nearly as reluctant to enter as the wild male himself; they went five or six times half-way in before they were finally entrapped; and, twice over, the male had run off to the distance of a quarter of a mile from the inclosure, but was again brought back by the females.

" The elephants having entered, we were requested to come into the king's presence, in which situation we should have a better view of the sport. We walked round accordingly by the southern and eastern angles of the inclosure, and seats were assigned to us in the same line with, and next to the princes; not only the most distinguished, but the most convenient situation. We made a bow, as before, and the sport went on. From the smallness of the elephant, there was neither much danger nor amusement in it. The females were withdrawn from the inclosure, one by one; and then the elephant-catchers, who are a distinct race, went into the square unarmed, and provoked the wild elephant to pursue them, which he did with great fury. The keepers took shelter from his pursuit within the palisade, through the apertures of which he lashed his trunk in vain. The elephant-keepers exhibited much boldness and agility; but, from what we saw, I should conceive that they ran very little risk. Accidents, however, sometimes occur. A few years ago, one of the hunters, when pursued by the elephant, tripped and fell; he was killed on the spot by the enraged animal. The king, who was present when this happened, immediately retired, the sight of blood not being fit for him to behold, either as a sovereign, or a votary of Gautama.

" Some goats were put into the square, and these were pursued by the elephant in the same way as the keepers, and with as little effect. These animals eluded his pursuit with the utmost ease; and were so little concerned at his presence, that they soon began to quarrel amongst themselves. When the elephant was sufficient tired, three huge tame male elephants were brought in to secure him, each mounted by his keeper, who had in his hand a rope with a noose, which one of them, after the second or

third effort, succeeded in casting round the fore leg. The animal made comparatively very little resistance, appearing to be quite subdued by the presence of his three powerful antagonists, who, after the noose was fixed, drove him by main force into a pen at the south side of the inclosure, from which he was afterwards withdrawn, and tied to a post by a comparatively slender rope put round his neck, through his mouth, and round his tusks. We saw him in this situation, under a shed, as we were returning home, very restless and sullen. He was so closely tied to the post that he could scarcely move, and had no power to do any mischief. We were told by the keepers, that the male elephants, when thus secured, refuse food for about five days. It takes six or seven months to tame them effectually, and occasionally as much as a whole year, for their dispositions are various*."

Knox's account of the mode of taking elephants in Ceylon presents a great similarity to Mr. Crawfurd's narrative of the practice in Ava. He says, "Though there be many in the woods, yet but few have teeth, and they males only. Unto these they drive some she elephants, which they bring with them for the purpose; which when once the males have got a sight of, they will never leave, but follow them wheresoever they go; and the females are so used to it, that they will do whatsoever is wished, either by a word or a beck, their keepers bid them: and so they delude them along through towns and countries, through the streets of the city, even to the very gates of the king's palace; where sometimes they seize upon them by snares, and sometimes, by driving them into a kind of pound, they catch them†." But

* Embassy to Ava, p. 299.

† Historical Relation of Ceylon, chap. vi.

the present mode of catching elephants in Ceylon is upon a large scale, such as is practised in Bengal, and consists in driving whole herds of these animals into a vast inclosure, called in Hindostan a *Keddah*. In ancient times, according to Pliny, elephants were chased by horsemen into a narrow defile, of which one end was closed up, and here they were detained till they were subdued by hunger. The present practice of the East has been pursued with little variation, for many centuries. Arrian gives a minute account of the mode of taking wild elephants in his own time. The natives, he says, dig a deep ditch round a large open space, into which the herd passes over a bridge. Their escape is then prevented by the removal of the bridge;—they are here kept till they are sufficiently starved and exhausted, when they are captured by tame elephants*. Fourteen hundred years after, the sultan Akbar, on his return to his capital (Agra) from the kingdom of Chandez in the Deccan, "upon the way, near the village of Sipiri, fell in with a great herd of wild elephants. He ordered his cavalry to surround them, and he drove them, with great difficulty, into a fold constructed for that purpose; one of the male elephants, of a prodigious size, finding himself confined, strode over the ditch, bore down the wall and the palisadoes before him, and made his way into the plain. Three trained elephants were sent after him: he stood to fight, and before they could overcome and take him, he afforded very great diversion to the king, who was remarkably fond of the boisterous contention of those enormous animals †." The large elephant-hunts of modern times are systematically carried on by the government; and the whole operation is conducted upon a scale of

* Indian History, chap. xii.

† Dowe's Hindostan, vol. ii. p. 242.

splendour which leaves all other hunting, even that of the bear in Sweden, at an immeasurable distance.

The magnificent scene of a great elephant hunt, where many thousand people are assembled, to drive a herd of these superb animals for miles with the clang of drums and trumpets, and the din of fire-works and musketry, is depicted by Mr. Corse with great felicity *:—

" When a herd is discovered, about three hundred people are employed to surround it, who divide themselves into small parties, consisting generally of three men each, at the distance of twenty or thirty yards from each other, and form an irregular circle, in which the elephants are enclosed ; each party lights a fire and clears a foot-path to the station that is next him, by which a regular communication is soon formed through the whole circumference from one to the other. By this path reinforcements can immediately be brought to any place where an alarm is given; and it is also necessary for the superintendents, who are always going round to see that the people are alert upon their posts. The first circle being thus formed, the remaining part of the day and night is spent in keeping watch by turns, or in cooking for themselves and companions. Early next morning one man is detached from each station, to form another circle in that direction where they wish the elephants to advance. When it is finished, the people stationed nearest to the new circle put out their fires, and file off to the right and left, to form the advanced party ; thus leaving an opening for the herd to advance through, and, by this movement, both the old and new circle are joined, and form an oblong. The people from behind now begin shouting, and making a noise with their rattles, drums,

* Asiatic Transactions, vol. iii.

L 3

&c., to cause the elephants to advance; and, as soon as they are got within the new circle, the people close up, take their proper stations, and pass the remaining part of the day and night as before. In the morning the same process is repeated, and in this manner the herd advances slowly in that direction where they find themselves least incommoded by the noise and clamour of the hunters, feeding, as they go along, upon branches of trees, &c. If they suspected any snare, they could easily break through the circle; but this inoffensive animal, going merely in quest of food, and not seeing any of the people who surround him, and who are concealed by the thick jungle, advances without suspicion, and appears only to avoid being pestered by their noise. As fire is the thing elephants seem most afraid of in their wild state, and will seldom venture near it, the hunters always have a number of fires lighted, and particularly at night, to prevent the elephants coming too near, as well as to cook their victuals and to keep them warm. The sentinels supply these fires with fuel, especially green bamboos, which are generally at hand, and which, by the cracking and loud report they make, together with the noise of the watchmen, deter the elephants from coming near; so that the herd generally remains at a distance, near the centre of the circle. Should they at any time advance, the alarm is given, and all the people immediately make a noise and use their rattles, to make them keep at a greater distance. In this manner they are gradually brought to the *Keddah*, or place where they are to be secured."

The keddah, towards which their course is thus directed, is an immense inclosure, sometimes circular and sometimes triangular, formed of huge upright and transverse beams, and terminating in a second or even a third inclosure, of smaller dimen-

sions, but similar strength. At Tipperah the keddah described by Mr. Corse consisted of three inclosures. Whether there be two or three of these great pens, which the mightiest force of the elephant is unable to break down, the one in which the herd is last driven has a narrow outlet, allowing room for the passage of one elephant only at a time. The principal difficulty is to persuade the herd to enter their destined prison. Although the palisade is concealed, and many precautions are taken to divest the entrance of any terrific appearance, the leader often hesitates; and the whole herd rush back upon their pursuers. If they disperse, the circles of men have again to be formed, and the tedious operation of driving them slowly onwards is necessarily repeated. If the leader, however, enter the gateway, the whole herd implicitly follows. We continue Mr. Corse's description:—

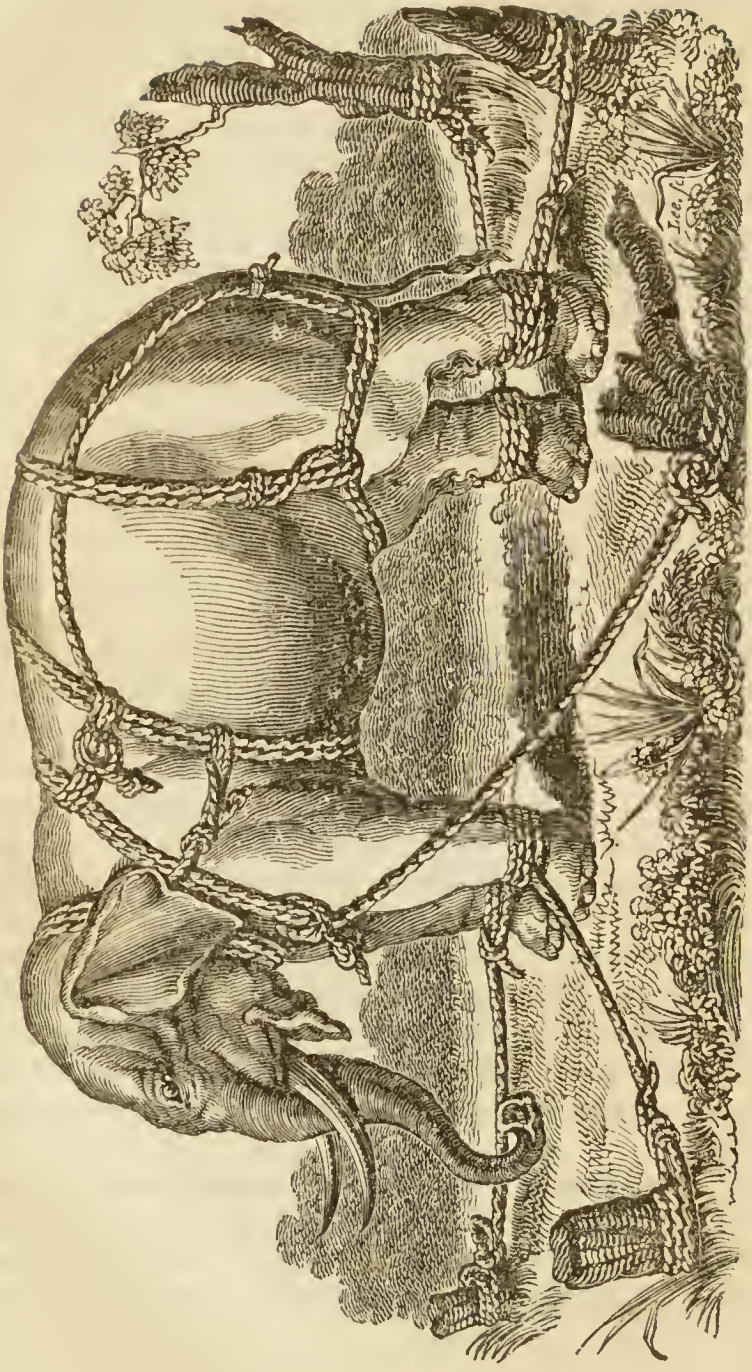
"Immediately when they are all passed the gateway, fires are lighted round the greatest part of the inclosure, and particularly at the entries, to prevent the elephants from returning. The hunters from without then make a terrible noise, by shouting, beating of drums, firing of blank cartridges, &c., to urge the herd on to the next inclosure. The elephants, finding themselves ensnared, scream and make a noise; but seeing no opening except the entrance to the next inclosure, and which they at first generally avoid, they return to the place through which they lately passed, thinking, perhaps, to escape, but now find it strongly barricaded; and as there is no ditch at this place, the hunters, to prevent their coming near, and forcing their way, keep a line of fire constantly burning all along where the ditch is interrupted, and supply it with fuel from the top of the palisade, and the people from without make a noise, shouting and hallooing, to drive them away. Where-

ever they turn, they find themselves opposed by burning fires, or bundles of reeds and dried grass, which are thrust through the openings of the palisades, except towards the entrance of the second inclosure. After traversing the first inclosure, and finding no chance of escaping but through the gateway into the next inclosure, the leader enters, and the rest follow; the gate is instantly shut, by people who are stationed on a small scaffold immediately above it, and strongly barricaded; fires are lighted, and the same discordant din made and continued, till the herd has passed through another gateway into the last inclosure, the gate of which is secured in the same manner as the former was. The elephants being now completely surrounded on all sides, and perceiving no outlet through which they can escape, appear desperate, and in their fury advance frequently to the ditch, in order to break down the palisades, inflating their trunks, screaming louder and shriller than any trumpet, sometimes grumbling like the hollow murmur of distant thunder, but wherever they make an attack they are opposed by lighted fires, and by the noise and triumphant shouts of the hunters. As they must remain some time in this inclosure, care is always taken to have part of the ditch filled with water, which is supplied by a small stream, either natural, or conducted through an artificial channel from some neighbouring reservoir. The elephants have recourse to this water to quench their thirst after their fatigues, by sucking the water into their trunks, and then squirting it over every part of their bodies. While they remain in this inclosure they continue sulky, and seem to meditate their escape; but the hunters build huts around them close to the palisade, watchmen are placed, and every precaution used to prevent their breaking through.

"When the herd has continued a few days in the *keddah*, the door of the outlet is opened, into which some one of the elephants is enticed to enter, by having food thrown first before, and then gradually further on into the passage till the elephant has advanced far enough to admit of the gates being shut. Above this wicker gate two men are stationed on a small scaffold, who throw down the food. When the elephant has passed beyond the door, they give the signal to a man, who, from without, shuts it by pulling a string, and they secure it by throwing two bars that stood perpendicular on each side, the one across the other, thus ×, and then two similar bars are thrown across each other behind the door next to the *keddah*, so that the door is in the centre. For further security, horizontal bars are pushed across the outlet, through the openings of the palisades, both before and behind those crosses, to prevent the possibility of the doors being broken. The outlet is so narrow, that a large elephant cannot turn in it; but as soon as he hears the noise that is made in shutting the gate, he retreats backwards, and endeavours to force it; being now secured in the manner already noticed, his efforts are unavailing. Finding his retreat thus cut off, he advances and exerts his utmost force to break down the bars, which were previously put across a little farther on in the outlet, by running against them, screaming and roaring, and battering them like a ram, by repeated blows of his head, retreating and advancing with the utmost fury*."

In this confinement the elephant exhausts himself with fatigue. Strong ropes with nooses are spread about him; and as soon as he puts a foot within the snare, he is bound to the palisade. When all his feet

* Asiatic Transactions, vol. iii.



Elephant harnessed in a keddah. From an original drawing, by Mr. Corse Scott, engraved in Brewster's Encyclopædia.

have thus been made fast, his hind legs are tied together; his body is then surrounded in various directions with powerful ropes, which are secured so as to form a complete harness. A couple of large cables, with running nooses, are lastly put round his neck, and are tied to the ropes on each side. The preparations being complete, the cables are made fast to two tame elephants. The heavy door at the end of the passage is opened, the ropes that tied his legs to the palisades are loosened, and he is conducted by his powerful brothers to an open spot, where he is made fast, in a similar way, between two trees. When his subjugated brethren leave him, to conduct another to his place of captivity, his rage becomes fearful. He roars in an agony of despair; he tramples the food which is given him under his feet. He sometimes falls a victim to his paroxysm of fury; but more commonly the cravings of hunger induce him to eat, and he gradually yields to the power of gentle discipline.

Chapter V.

THE AFRICAN ELEPHANT. ELEPHANT HUNTS.

African Elephant. Elephas Africanus. Cuvier.*

Before the settlements of the Portuguese on the coasts of Africa, in the latter part of the fifteenth century, the elephant ranged without much interrup-

* From an elephant in the Menagerie of the Jardin des Plantes, 1829.

tion, on the banks of the great rivers, whose courses, even at our own days, have not been completely traced. In the plains of the kingdom of Congo, where the herbage attains a wild luxuriance amidst innumerable lakes, and on the borders of the Senegal, whose waters run through extensive forests, herds of elephants had wandered for ages in security. The poor African, indeed, occasionally destroyed a few stragglers, to obtain a rare and luxurious feast of the more delicate parts of their flesh; and the desire for ornament, which prevails even in the rudest forms of savage life, rendered the chiefs of the native hordes anxious to possess the tusk of the elephant, to convert it into armlets and other fanciful embellishments of their persons. Superstition, too, occasionally prompted the destruction of this powerful animal; for the tail of the elephant had become an object of reverence, and therefore of distinction to its possessor: and the huntsman, accordingly, devoted himself, with as much ferocity as the hyæna-dog that gnaws off the tail of the ox and the sheep during their unprotected repose *, to steal upon the unsuspecting elephant in his pasture, and to cut off his tail with a single stroke of his rugged hatchet †. But these were irregular and partial incentives to the destruction of the most mighty, and, at the same time, the most peaceful inhabitant of the woods. The steady and inexorable demands of commerce had not yet come to the shores of Africa, to raise up enemies to him in all the tribes amongst whom he had so long lived in a state of comparative security. The trade in ivory had been suspended for more than a thousand years. There were periods, indeed, in

* See Menageries, vol. i. p. 125.

† Voyage de Merolla, quoted in Histoire Generale des Voyages, tom. v. p. 79.

the history of the refined nations of antiquity, when this destruction of the elephant was as great as in modern times:—when Africa yielded her tributes of elephants' teeth to the kings of Persia*; when the people of Judæa built "ivory palaces†;" when the gallies of Tyre had "benches of ivory‡;" when, contributing to the barbarous luxury of the early Grecian princes,

"The spoils of elephants the roofs inlay §;"

when the Etruscan attributes of royalty were sceptres and thrones of ivory||; when the ancient kings and magistrates of Rome sat in ivory seats¶; when colossal ivory statues of their gods, far exceeding, in their vast proportions and their splendid ornaments, all the magnificence of the moderns, were raised by the Greeks of the age of Pericles; and when immense stores of ivory, to be employed with similar prodigality, were collected in the temples**. In the time of Pliny, the vast consumption of ivory for articles of luxury had compelled the Romans to seek for it in another hemisphere; Africa had ceased to furnish elephants' tusks, except of the smallest kind††. A century or two earlier, according to Polybius, ivory was so plentiful in Africa, that the tribes on the confines of Ethiopia employed elephants' tusks as door-posts, and for the palisades that enclosed their fields‡‡. When the Roman power fell into decay, and the commerce of Europe with Africa was nearly suspended for centuries, the elephant was again unmolested in those regions. He was no

* Herodotus, Thalia. *Elephant's teeth* is the name in commerce for what are more accurately called *défenses* or *tusks*—the substance of ivory.

† Psalm xlv. 8. ‡ Ezek. xxvii. 6. § Odyssey, lib. iv., v. 73.
|| Dionys. Halicar., lib. iii., cap. 18. ¶ Ibid., lib. v., cap. iv.
** Cicero de Signis, par. 46. †† Hist. Nat., lib. viii., cap. 2.
‡‡ See Plin., lib. viii., cap. 10.

longer slaughtered to administer to the pomp of temples, or to provide ornaments for palaces. The ivory tablets of the citizens of ancient Rome (*libri elephantini*) had fallen into disuse; and the toys of modern France were constructed of less splendid materials *. At Angola, elephants' teeth had become so plentiful, because so useless as an article of trade, that in the beginning of the seventeenth century, according to Andrew Battell, an Englishman, who served in the Portuguese armies, the natives "had their idols of wood in the midst of their towns, fashioned like a negro, and at the foot thereof was a great heap of elephants' teeth, containing three or four tons of them: these were piled in the earth, and upon them were set the skulls of dead men, which they had slain in the wars, in monument of their victory †." The people of Angola and Congo, when the Portuguese first established themselves there, were found to have preserved an immense number of elephants' teeth, for centuries, and had applied them to such superstitious uses. As long as any part of the stock remained, the vessels of Portugal carried large quantities to Europe; and this traffic formed one of the most profitable branches of the early trade with Africa ‡. About the middle of the seventeenth century the store was exhausted. But the demand for ivory which had been thus renewed in Europe, after the lapse of so many centuries, offered too great a temptation to the poor African to be allowed by him to remain without a supply. The destruction of elephants for their teeth was again unremittingly pursued throughout those extensive forests; and that

* Dieppe has been for several centuries the great manufactory of ivory ornaments.

† Purchas, book vii., chap. 9.

‡ See Hist. des Voyages, vol. v., p. 79.

havoc has gone on with little, if any, diminution, to our own day.

It would be exceedingly difficult to estimate with any pretension to accuracy the present consumption of ivory in Europe. Its use must have been considerably diminished, on the one hand, by the changes of taste, which have dispensed with the ivory beds, and ivory chairs, that adorned the palaces of princes in the age of Leo X.; and have displaced the inlaid tables and cabinets of a century later, by articles of furniture distinguished rather for the excellence of their workmanship than for the cost of their material. But, on the other hand, the increase of comforts and luxuries amongst the middle classes of society, and the love of tasteful ornament which has descended from the palace to the cottage (one satisfactory symptom of intellectual advancement) has probably increased the consumption of ivory in smaller articles. We understand that at Dieppe there are at present eleven flourishing manufactories of articles in ivory, from which various specimens of art, from the commonest piece of turnery to the most elaborate carving, are dispersed throughout the continent. Much is employed for crucifixes, and other appendages of Roman Catholic worship. In our own country the demand for elephants' teeth, to be employed in the manufacture of musical instruments, plates for miniatures, boxes, chess-men, billiard-balls, mathematical rules, and small pieces of carving*, is much more consi-

* Works in ivory have hitherto been executed as *carving*, in which art the eye alone is depended on for accuracy, and false strokes are irremediable. However great the abilities of the artist, he has never been able to produce any results so satisfactory as those of the modeller, because his material is not plastic; or as those of the sculptor, because hitherto he has had no model to work from: and he does not, even in the case of his making a

derable than might occur to a superficial observation. In 1827, the Customs upon elephants' teeth, the duty being 20*s.* per cwt., amounted to 3,257*l.*, exhibiting an importation of 364,784 lbs.* In eleven years, from 1788 to 1798, 18,914 cwt. of ivory was imported, which shews an average annual importation of 192,579 lbs. The consumption, therefore, is either increased in Great Britain, or, from our possession of the colony of the Cape of Good Hope, we are enabled to supply the demands of foreign nations.

The average weight of an elephant's tusk is about 60 lbs. To have produced, therefore, 364,784 lbs. of ivory, the import of 1827, 6080 tusks must have been procured. This fact assumes the annual slaughter of at least 3040 elephants. But the real havoc is much greater. Mr. Burchell, in his travels in Africa, met with some elephant hunters, who had shot twelve elephants, which, however, produced no more than two hundred pounds weight of ivory, as all the animals, excepting one, happened to be females†. If anything like the

copy, avail himself of those mechanical helps, or adopt those methods of producing a faithful copy, which are peculiar to the art of statuary. Mr. John Isaac Hawkins, the inventor of several ingenious articles (the ever-pointed pencil, for instance), has therefore proposed, that works of regular, though miniature sculpture, should be wrought in ivory, by similar rules and methods by which marble statuary is rendered the exact counterpart of the original model, but modified to the circumstances of the case by peculiar means which he has invented. By adopting this new process, Mr. Cheverton has succeeded in producing miniature copies of busts with extreme accuracy. We have seen a most exquisite copy in ivory, thus executed, of Nollekens's bust of the Duke of Wellington; as well as another of the Townley Isis, in which the markings of the nails were scarcely perceptible to the naked eye, from their extreme delicacy, but were found perfectly accurate, when examined by the microscope.

* See Companion to Alm. 1830.

† Travels in Southern Africa, vol. i., p. 481.

same ill-luck, or want of skill, attended all the African elephant hunters, upwards of forty thousand of these animals would be annually slain to supply our demand for ivory baubles. But this circumstance is, of course, an extraordinary one ; and we only mention it to shew the necessary waste of elephant life, in the supply of our commercial wants.

There is a peculiarity in the commerce of elephants' teeth which forcibly arrests the imagination. Ivory is not an article of paramount necessity. The fine marbles would answer the purposes of statuary better, even if the ancient art of sculpture in ivory were restored; and the harder woods are quite as useful in the manufacture of furniture. It is required only for ornaments which are by no means suited to every taste; for modern Europeans have not a passion for ivory, as the Romans are said, by M. de Caylus, to have had*. And yet the demand in this country, of which we hear and see little, gives activity to whole tribes of Africans ;—makes elephant-hunting a trade ;—exposes man, as we shall presently shew, to the most appalling dangers, and the severest privations ;—and spreads terror amongst thousands of these unoffending animals, who appear to have a natural right, which they have enjoyed from the creation, to the immense savannas upon which they pasture. Mr. Pringle, whose description of a herd of elephants we have already given, speaking of the inclinations of his companions to attack this herd, which desire was suppressed by a feeling of the danger, says, " When I looked around on these noble and stately animals, feeding in quiet security in the depth of this secluded and picturesque valley, too peaceful to injure, too powerful to dread any other living creature, I felt that it would be almost a

* Mem. de l'Académie des Inscriptions.

sort of sacrilege to attempt their destruction in sheer wantonness, merely to furnish sport to the great destroyer, man; and I was glad when it was unanimously agreed to leave them unmolested." These, however, are not the feelings of the Hottentot who shoots the "noble and stately" beast, nor of the boor who carries his teeth to the coast, nor of the factor who buys them. It is not to be expected, nor perhaps is it desirable, that they should so feel. In his relations to the inferior animals, man must every hour harden his heart. It is his duty to abstain from every wanton or cruel sacrifice;—but the great economy of nature is, perhaps, as much carried on by the power and the will of man to destroy every creature that can conduce to his necessities, or even his most artificial wants, as the relations between the animal and the vegetable world are maintained by the constant interchange of destruction that goes forward amongst the insect race;—for every shrub attracts its peculiar enemy, and that enemy in his turn becomes a victim to one more adroit or more powerful than himself.

The English, in the sixteenth century, used to trade for ivory on the coast of Guinea. While the Portuguese retained their domination on the African shores, this sort of commerce was extremely irregular, being principally carried on by merchant vessels that obtained elephants' teeth, in small quantities, from the scattered negroes*. Our growing maritime superiority, and our colonial establishments in Southern Africa, have now given to this trade the ordinary precision of other commercial operations. The great mart for ivory is Cape Town;—and thither the Hottentots resort to exchange ivory and cattle for gunpowder, muskets, knives, tobacco, and

* See Towtson's Voyage, 1555, in Hakluyt's Collection.

clothing. Mr. Burchell saw a party of twenty men, with a train of women and children, that had brought about a thousand pounds weight of elephants' teeth to Cape Town, thus to barter for manufactured articles*. In the interior he met with a Hottentot who had bought twenty elephants' tusks of the Bachapins, at the rate of a sheep for a tusk. These people offered to Mr. Burchell himself, two oxen, and two elephants' tusks (each of which was too heavy to be carried by one man), in exchange for a gun. The Bichuana nations (Bachapins), whose forests abound with elephants, conduct their trade in elephants' teeth principally by barter with the Hottentots. There is no regulated trade in ivory; and Mr. Burchell urges the establishment of a joint-stock company for carrying on this profitable commerce, by means of caravans, with these people. They are far enough removed from civilization to furnish ivory in abundance. The elephants and the poor savages share the forests. It is a necessary condition of the commerce in ivory, that the European must penetrate farther and farther into the wilds to search for it. Ivory was once common enough on the coasts of Loango; but in a century or so the negroes had to bear it three hundred miles on their heads to the European market†. When Thunberg travelled in Caffraria, in 1773, he saw an elephant hunter, who told him that he had shot twelve elephants in a day, close to Cape Town. It would be now difficult to find a herd within many miles. Wild elephants, however, sometimes approach very near to the abodes of man. In the year 1700, an immense elephant quietly walked into the town of Mina, on the Gold Coast; and paid so little attention to the shots which

* Vol. i. p. 154.

† Hist. Gen. des Voyages, tom. iv. p. 592.

were fired at him, that, having entered the Dutch garden, he began to pull up the cocoa-trees with the greatest complacency, amidst a shower of balls. The negroes thought he would bear any thing—and one unhappy man laid hold of his tail. The elephant turned round in an instant, thrust his tusks through the negro's body, and trampled him to pieces; although he suffered the carcase to be taken away, without offering any interruption. He fell at last, covered with wounds; but he did not utter a cry till his trunk was cut off, and then his roars were fearful*. Such an appearance of an elephant in a populous neighbourhood is now very rare; and thus the supply of ivory is gradually growing scarcer,—or at least there are greater difficulties presented to its collection. The unbounded influence of commercial wealth in calling forth every energy, whether of civilized or uncivilized man, will, however, ensure the destruction of the elephant, as long as his teeth are an object of desire;—and such is the capriciousness of our artificial wants, that the more difficulty there may be in obtaining ivory, the more eagerly will it be coveted. The growing scarcity of elephants' teeth will probably solve the problem, whether elephants still inhabit the range of the Atlas mountains, as they did in the time of Pliny.

In those districts of Africa, where the supply of animal food is precarious, the elephant is naturally an object of pursuit for his flesh. The negroes who hunt him for this purpose are ill-provided with arms or ammunition;—and they, therefore, incite his fury towards one or more of their number, while the rest hamstring him. Major Denham saw a victim of this butchery. He says, "the whole of the next day the road, leading to the spot where he lay, was like a

* See Bosman's Guinea.

fair, from the number who repaired thither for the sake of bringing off a part of the flesh, which is esteemed by all, and even eaten in secret by the first people about the sheikh: it looks coarse, but is better flavoured than any beef I found in the country*." Le Vaillant feasted on the foot of an elephant with extraordinary relish. "It was a dish for a king," according to this enthusiastic traveller. "Never have our modern Lucullluses," says he, "been able to produce on their table such a dish as that I have before me. In vain their gold reverses the order of the seasons;—in vain they lay every country under contribution;—their luxury has not reached this point—there are bounds to their sensual cupidity†." The epicures of Rome, however, to whom inordinate expense was a matter of the utmost indifference, made a dish of the cartilage of the trunk of the elephant. Pliny says, "they fancied they were eating ivory‡." The Abyssinians, according to Bruce, destroy the elephant for food. "They cut the whole of the flesh off his bones into thongs, like the reins of a bridle, and hang these like festoons upon the branches of trees, till they become perfectly dry, without salt; and then they lay them up for their provisions in the season of the rains." Sparmann saw the flesh dried in a somewhat similar manner, by the Hottentots of the Boshiesman race. Bruce has given a spirited narrative of an elephant-hunt, conducted by the Africans, who principally subsist on his flesh:—

"An hour before day, after a hearty breakfast, we mounted on horseback, to the number of about thirty. But there was another body, both of horse and foot,

* Discoveries in Africa, p. 221.
† Voyage en Afrique, tom. i. p. 141, 4to.
‡ Hist. Nat., lib. viii. cap. ix.

which made hunting the elephant their particular business. These men dwell constantly in the woods, and know very little of the use of bread, living entirely upon the flesh of the beasts they kill, chiefly that of the elephant and rhinoceros. They are exceedingly thin, light, and agile, both on horseback and foot; are very swarthy, though few of them are black; none of them woolly-headed, and all of them have European features. They are called Agageer, a name of their profession, not of their nation, which comes from the word agar, and signifies to hough or hamstring with a sharp weapon. More properly it means the cutting of the tendon of the heel, and is a characteristic of the manner in which they kill the elephant, which is shortly as follows:—

"Two men, absolutely naked, without any rag or covering at all about them, get on horseback; this precaution is for fear of being laid hold of by the trees or bushes, in making their escape from a very watchful enemy. One of these riders sits upon the back of the horse, sometimes with a saddle, and sometimes without one, with only a switch, or short stick in one hand, carefully managing the bridle with the other; behind him sits his companion, who has no other arms but a broadsword, such as is used by Sclavonians, and which is brought from Trieste. His left hand is employed grasping the sword by the handle; about fourteen inches of the blade is covered with whip-cord. This part he takes in his right hand, without any danger of being hurt by it; and, though the edges of the lower part of the sword are as sharp as a razor, he carries it without a scabbard.

"As soon as the elephant is found feeding, the horseman rides before him as near his face as possible; or, if he flies, crosses him in all directions, crying out, 'I am such a man and such a man;

this is my horse, that has such a name; I killed your father in such a place, and your grandfather in such another place; and I am now come to kill you; you are but an ass in comparison of them.' This nonsense he verily believes the elephant understands, who, chased and angry at hearing the noise immediately before him, seeks to seize him with his trunk, or proboscis; and, intent upon this, follows the horse everywhere, turning and turning round with him, neglectful of making his escape by running straight forward, in which consists his only safety. After having made him turn once or twice in pursuit of the horse, the horseman rides close up alongside of him, and drops his companion just behind on the off side; and while he engages the elephant's attention upon the horse, the footman behind gives him a drawn stroke just above the heel, or what in man is called the tendon of Achilles. This is the critical moment; the horseman immediately wheels round, takes his companion up behind him, and rides off full speed after the rest of the herd, if they have started more than one; and sometimes an expert agageer will kill three out of one herd. If the sword is good, and the man not afraid, the tendon is commonly entirely separated; and if it is not cut through, it is generally so far divided, that the animal with the stress he puts upon it, breaks the remaining part asunder. In either case, he remains incapable of advancing a step, till the horseman's return, or his companions coming up pierce him through with javelins and lances: he then falls to the ground, and expires with loss of blood.

"'The agageer nearest me presently lamed his elephant, and left him standing. Ayto Engedan, Ayto Confu, Guebra Marram, and several others, fixed their spears in the other before the agageer had cut his tendons. My agageer, however, having

wounded the first elephant, failed in the pursuit of the second; and being close upon him at the entrance of the wood, he received a violent blow from the branch of a tree which the elephant had bent by his weight, and, after passing, allowed it to replace itself; when it knocked down both the riders, and very much hurt the horse. This, indeed, is the great danger in elephant-hunting; for some of the trees, that are dry and short, break by the violent pressure of so immense a body moving so rapidly, and fall upon the pursuers, or across the road. But the greatest number of these trees being of a succulent quality, they bend without breaking, and return quickly to the former position, when they strike both horse and man so violently that they often beat them to pieces."

As we have before intimated, the destruction of the elephant for his flesh is almost nothing when compared with the havoc which is produced by the demand for ivory. The circumstance of an elephant's death was so rare in those parts of Africa through which Major Denham travelled, that it was an event "which put whole families in motion, with their daughters mounted on bullocks." We shall endeavour to collect from various travellers, more particularly from Mr. Cowper Rose, a brief account of the mode in which the pursuit of the elephant for his teeth is now conducted in Africa.

The elephant hunter, that is, the man who directs the operations of the Hottentots, is often a European. Mr. Rose shared the dangers of such a man, a native of England, who had been a smuggler;—"a thin, spare, bony man, formed for activity," with "a sun-scorched countenance, and an eye of habitual watchfulness." His hunting dress was a dark blue linen shirt; trowsers of the same colour, supported by a waist-belt; a yellow silk handkerchief bound

tightly round his head; his powder-horn and pouch hung on his side. The two Hottentots who accompanied the hunter were equipped even in a more unpretending costume:—trowsers tucked up to the knee, shewing bare legs that defied thorns; one shoulder-belt from which the pouch and powder-horn were suspended, and another supporting a hatchet for cutting out the tusks, and a bag for holding wild-honey. Three or four bold spirits thus compose a hunting-party. Each bears an immense gun, weighing at least twenty pounds. Their course is through the wildest countries, where no sound is heard by day but the monotonous toll of the *campanero*, or bell-bird,—and no more pleasing voice at night than the shriek of the jackal, and the chattering of the hyæna. Foot-prints of the elephant begin to be traced; and the Hottentots, with unvarying accuracy, determine when the animal passed. "This is three days old"—or, "This is last night." Several days are passed in these fatiguing marches under a burning sun. At length the hunter sees a troop of elephants on a distant hill, while the inexperienced European can discover nothing. Vaillant has described, with his usual spirit, the wonderful accuracy with which the Hottentot pursues the traces of the animal that he seeks; "What a subtle sense is the sight of a Hottentot! How he assists it by a difficult and truly wonderful attention! Upon a dry ground, where, in spite of his great weight the elephant scarcely leaves any trace—in the midst of dead leaves, scattered and curled up by the wind—the African recognises his step. He sees the way which the animal has taken, and that which he himself must follow. A green leaf turned up or broken off, a bud or a little twig bruised or torn down—these and a thousand other circumstances are indications which never fail him. The most expert European

hunter is completely baffled; for myself I could never understand it*." This accuracy of observation at length brings the hunters close to the herd; and then the excitement and the danger begin; fatigue is forgotten; the tempting ivory is within the grasp of the anxious adventurers. We shall describe the scene which follows, in Mr. Rose's words:—

"But now we went on with fresh vigour, and gained the hill opposite to that on which they were; we halted and watched; a few words passed between the hunter and Skipper (a Hottentot), and we descended silently the ravine that divided us. Again they whispered,—marked from what point the light breeze came; and we commenced the steep ascent in a direction that the wind might come from the animals to us; for we were now so near them, that their quick scent would have discovered us. Skipper led, while we followed in Indian file, threading a narrow rocky path, which skirted one bank of a small hollow, while the huge beasts were feeding on the opposite one. The leader halted, the hunter gave my companion and myself lighted sticks, and whispered directions to fire the bush and grass, and to retreat, in the event of the animals charging. It was a strange feeling to find myself within twenty yards of creatures whose forward movement would have been destruction; but they stood browsing on the bushes, and flapping their large ears, pictures of indolent security. We were taking our stations when we heard a shot, and then another, and of the eight elephants, seven fled. We went forward to see the effect of the shots. Skipper's had carried death with it; the elephant had fallen, but rose again. I never heard anything like its groans; he again fell, and

* Vol. i. p. 141.

we went up to him; the ball had entered behind the shoulder and reached the heart."

The troop of elephants flee, but their enemy quickly follows. Their course may be now easily traced, for they are terrified and angry. They uproot every thing that impedes their path; branches are strewed every where around; and the large euphorbias are broken like twigs. They at length stop. Their huge backs shew above the bush. The hunters steal on—again fire—again an elephant dies—and again the herd rushes forward. Night comes on. The adventurers light a blazing fire, and sleep in safety, while the elephants and the buffaloes are around them. During the night one of the Hottentots may be heard reciting some tale of danger or superstition in a dull, monotonous voice; and when the story of one is finished, another begins some similar narrative. At the dawn of day they are ready again to start. The pursuit continues, either till the remainder of the herd are destroyed or have escaped—or till the ammunition is exhausted. The party then retrace their ground, with their horses, to carry off the tusks, which they have marked as each animal is killed. There is no difficulty in finding the spots; for a Hottentot, in a country where hill and hollow are equally clothed with jungle, will, in the heat of a fatiguing day, throw his hatchet into a bush, and after weeks return to the same bush, and take it up again *.

The chase of the elephant, conducted in this manner, is an occasion of extraordinary excitement—but it is also a work of great fatigue and danger. The hardships and terrors of such a life are described by Mr. Rose, in the words of the European hunter whom he accompanied:—

* Rose, p. 239.

"I was surprised to hear D——— say, that it was his wish to leave his present life, and to settle quietly in his farm. 'Indeed!' I said, 'I should have thought that this wild pursuit, and your former dangerous trade, would render a quiet life somewhat sleepy.'—'I have a wife now, and shall have children, and have been driven to this by debt and necessity. I have nearly got over my difficulties, for in twenty months, I and my Hottentots have killed eight hundred elephants; four hundred have fallen by this good gun; and when I am free, I quit it. Scores of times have the elephants charged around me, even within a yard of the bush under which I had crept; and I feel that it was a chance I was not crushed. Once I had fired on a large troop in a deep ravine, one side of which was formed by a steep cliff, which echoed back the sound of the firing, and a hundred elephants, with upraised ears, and loud screams, and tossing trunks, rushed down the narrow pass, and charged the echo, being the opposite side to that in which we had fired, and the one to which we had moved; myself and Hottentots lying in the bush, while they rushed by us. The boldest hunter is killed at last. I have, when pursued by a rhinoceros, sprung down a high bank, not knowing its depth, or whether I might not fall on a rock or stump. No, sir, it is a life of no common hardship and danger. I have been obliged to eat the veldtschoon (untanned leather shoes) from my feet.'"

The elephant is sometimes fearfully revenged upon his great enemy, the ivory-hunter. Mr. Burchell has told the story of *Carel Krieger's* fate; and many similar accidents might doubtless be found in the rude traditions of the Africans*:—

* Travels, vol. i., p. 301.

"He was an indefatigable and fearless hunter; and, being also an excellent marksman, often ventured into the most dangerous situations. One day, having with his party pursued an elephant which he had wounded, the irritated animal suddenly turned round, and, singling out from the rest the person by whom he had been wounded, seized him with his trunk, and, lifting his wretched victim high in the air, dashed him with dreadful force to the ground. His companions, struck with horror, fled precipitately from the fatal scene, unable to turn their eyes to behold the rest of the tragedy. But on the following day they repaired to the spot, where they collected the few bones that could be found, and buried them near the spring. The enraged animal had not only trampled his body literally to pieces, but could not feel its vengeance satisfied till it had pounded the very flesh into the dust, so that nothing of this unfortunate man remained, excepting a few of the larger bones."

We have before us a very picturesque account of a remarkable escape from destruction by an enraged elephant, which has been furnished to us by Mr. Pringle. The hero of the narrative is Lieut. J. D. Moodie, of the 21st fusileers, who is now in England:—

"In the year 1821, I had joined the recently formed semi-military settlement of Fredericksburg, on the picturesque banks of the Gualana, beyond the Great Fish river. At this place our party (consisting chiefly of the disbanded officers and soldiers of the Royal African corps) had already shot many elephants, with which the country at that time abounded. The day previous to my adventure I had witnessed an elephant hunt for the first time. On this occasion a large female was killed, after some

hundred shots had been fired at her. The balls seemed at first to produce little effect, but at length she received several shots in the trunk and eyes, which entirely disabled her from making resistance or escaping, and she fell an easy prey to her assailants.

"On the following day, one of our servants came to inform us that a large troop of elephants was in the neighbourhood of the settlement, and that several of our people were already on their way to attack them. I instantly set off to join the hunters, but, from losing my way in the jungle through which I had to proceed, I could not overtake them, until after they had driven the elephants from their first station. On getting out of the jungle I was proceeding through an open meadow on the banks of the Gualana, to the spot where I heard the firing, when I was suddenly warned of approaching danger, by loud cries of '*Pas-op!*—Look out!' coupled with my name in Dutch and English; and at the same moment heard the crackling of broken branches, produced by the elephants bursting through the wood, and the tremendous screams of their wrathful voices resounding among the precipitous banks. Immediately a large female, accompanied by three others of a smaller size, issued from the edge of the jungle, which skirted the river margin. As they were not more than two hundred yards off, and were proceeding directly towards me, I had not much time to decide on my motions. Being alone, and in the middle of a little open plain, I saw that I must inevitably be caught, should I fire in this position, and my shot not take effect. I therefore retreated hastily out of their direct path, thinking they would not observe me, until I should find a better opportunity to attack them. But in this I was mistaken, for on looking

back I perceived, to my dismay, that they had left their former course, and were rapidly pursuing and gaining ground on me. Under these circumstances I determined to reserve my fire as a last resource; and turning off at right angles in the opposite direction, I made for the banks of the small river, with a view to take refuge among the rocks on the other side, where I should have been safe. But before I got within fifty paces of the river, the elephants were within twenty paces of me—the large female in the middle, and the other three on either side of her, apparently with the intention of making sure of me; all of them screaming so tremendously, that I was almost stunned with the noise. I immediately turned round, cocked my gun, and aimed at the head of the largest—the female. But the gun, unfortunately, from the powder being damp, hung fire, till I was in the act of taking it from my shoulder, when it went off, and the ball merely grazed the side of her head. Halting only for an instant, the animal again rushed furiously forward. I fell—I cannot say whether struck down by her trunk or not. She then made a thrust at me with her tusk. Luckily for me she had only *one*, which still more luckily missed its mark. She then caught me with her trunk by the middle—threw me beneath her fore-feet—and knocked me about between them for a little space: —I was scarcely in a condition to compute the number of minutes very accurately. Once she pressed her foot on my chest with such force, that I actually felt the bones, as it were, bending under the weight; and once she trod on the middle of my arm, which, fortunately, lay flat on the ground at the time. During this rough handling, however, I never entirely lost my recollection, else I have little doubt she would have settled my accounts with this world. But

owing to the roundness of her foot, I generally managed, by twisting my body and limbs, to escape her direct tread. While I was still undergoing this buffetting, Lieutenant Chisholm, of the R. A. corps, and Diederik, a Hottentot, had come up, and fired several shots at her, one of which hit her in the shoulder; and at the same time her companions, or young ones, retiring, and screaming to her from the edge of the forest, she reluctantly left me, giving me a cuff or two with her hind feet in passing. I got up, picked up my gun, and staggered away as fast my aching bones would allow; but observing that she turned round, and looked back towards me, before entering the bush, I lay down in the long grass, by which means I escaped her observation.

"On reaching the top of the high bank of the river, I met my brother, who had not been at this day's hunt, but had run out on being told by one of the men that he had seen me killed. He was not a little surprised at meeting me alone and in a whole skin, though plastered with mud from head to foot. While he, Mr. Knight of the Cape regiment, and I, were yet talking of my adventure, an unlucky soldier of the R. A. corps, of the name of M'Clane, attracted the attention of a large male elephant, which had been driven towards the village. The ferocious animal gave chace, and caught him immediately under the height where we were standing—carried him some distance in his trunk—then threw him down, and bringing his four feet together, trod and stamped upon him for a considerable time, till he was quite dead. Leaving the corpse for a little, he again returned, as if to make quite sure of his destruction, and kneeling down, crushed and kneaded the body with his fore-legs. Then seizing it again with his

trunk, he carried it to the edge of the jungle, and threw it among the bushes. While this tragedy was going on, my brother and I scrambled down the bank as far as we could, and fired at the furious animal, but we were at too great a distance to be of any service to the unfortunate man, who was crushed almost to a jelly.

"Shortly after this catastrophe, a shot from one of the people broke this male elephant's left fore-leg, which completely disabled him from running. On this occasion, we witnessed a touching instance of affection and sagacity in the elephant, which I cannot forbear to relate, as it so well illustrates the character of this noble animal. Seeing the danger and distress of her mate, the female before mentioned (my personal antagonist), regardless of her own danger, quitted her shelter in the bush, rushed out to his assistance, walked round and round him, chasing away the assailants, and still returning to his side and caressing him; and when he attempted to walk she placed her flank under his wounded side and supported him. This scene continued nearly half an hour, until the female received a severe wound from Mr. C. Mackenzie, of the R. A. corps, which drove her again to the bush, where she speedily sank exhausted from the loss of blood; and the male soon after received a mortal wound also from the same officer.

"Thus ended our elephant hunt; and I need hardly say, that what we witnessed on this occasion, of the intrepidity and ferocity of these powerful animals, rendered us more cautious in our dealings with them for the future."

We have thus exhibited a picture of the chase of the wild elephant in Africa. The rude modes of de-

struction to which he is there subjected present a singular contrast to the caution, merciful even in cruelty, with which he is entrapped in India, to be reduced to domesticity *. The African elephant was in former times tamed; but in no part of that extensive region is he now, as far as we know, employed by man, either for war or commerce. He is driven from forest to forest, as the desire of gain carries the hunter farther and farther from the abodes of civilization. Man presents himself, there, only as a destroyer. He does not capture the "half-reasoning" beast, to become his protector,—to identify him with the follies of human pride,—to teach him the value of human affections. The Africans are very disinclined to believe what they have not seen; like all other ignorant people, they are at once incredulous and superstitious,—crediting a number of wild things beyond the reach of human evidence, and refusing to believe circumstances connected with ordinary matters, which are out of the range of their own experience. Thus, in many parts where the elephant abounds, the assertion that he is tamed and ridden in other countries, passes as one of the white-man's lies †. How much more would the poor Bachapin withhold his credence, if he were told that the domestic elephant, if he escape from confinement, will come back to his duty, after a lapse of many years, upon hearing the voice of his keeper; that he will assist in capturing and confining his own species; that he may be trusted without a guide, not only to carry burthens far greater than a horse or a buffalo could bear, but to deposit his load in any place to which he

* The elephant is, however, sometimes shot in India, as in Africa. In Colonel Welsh's Reminiscences, lately published, there is an interesting account of an elephant being thus destroyed, in the territory of the Rajah of Coorg.

† Ranking's Wars and Sports, p. 2.

is accustomed, with as much precision as if it were taken from his back by human hands! It will be for us to exhibit, in the succeeding chapters, the various modes, all curious and instructive, in which the elephant is employed, when man has subdued his natural strength and sagacity, to administer to the necessities of civilized life. We have completed our picture of him in his state of nature.

Chapter VI.

DOMESTIC EMPLOYMENT OF ELEPHANTS IN THE EAST.—TRAINING.—DOCILITY.

An old traveller in the East, describing the mode of taming the wild elephant after his capture, says, "The people goad him with pointed canes till they force him into a narrow stall, in which he is securely fastened with strong ropes about his body and legs, and is left there for three or four days without food or drink. Then they bring a female to him, with food and drink, and unbind the ropes, and he becomes tame in three or four days*." The rapidity with which the elephant is here represented as becoming content with his new lot, is an exaggeration. The actual process is a much slower one. The animal is carefully attended upon; all his necessities are diligently supplied; he has abundance of food and drink; his skin is kept cool by continued applications of water; the flies that irritate him are driven off. One man, his intended keeper, is always about him, soothing him by the most diligent kindness. The animal gradually learns that his comforts must depend upon the will of this keeper, and he allows him, therefore, to approach him, and at length to get upon his back. As the elephant gains confidence the keeper is more bold, and soon takes his position upon the neck, with the iron hook (*hawkuss* or *ankush*), ready to direct him, by catching hold of his ear, or pressing it into his skin. To this rough monitor he

* Fitch's Journey; in Kerr's Collection of Voyages, vol. vii. p. 491.

gradually yields entire submission, as the horse submits to be urged on by the spur. The method of reducing the elephant to obedience, pursued at this day in Hindostan, is doubtless that which has been observed for centuries in a country where nothing changes. The "Dwin-Shaster," one of the old sacred books of the Hindoos, says, "The mind is stronger than an elephant, whom men have found means to subdue, though they have never been able to subdue their own inclinations. But the *ankush* of the mind is true wisdom, which sees into the vanity of all worldly things *."

It is generally as long as six months before the elephant is rendered perfectly obedient to his keeper, so as to be conducted from place to place, without difficulty. The females are invariably more docile than the males, and require much less severity in their breaking in. The subjection of this animal, as in most other instances of the domination of man over inferior creatures, is produced by impressing him with fear as well as affection. When his spirit is broken by his first confinement, he is soothed by unvarying kindness, till he permits his master to bestride him; and then comes the terror of the hook and the spike. Upon the whole, however, elephants are reduced to and kept in obedience more by kindness than severity. Mr. Corse complains that "the keepers trust too much to their good nature, before they are thoroughly acquainted with their dispositions." This circumstance indicates that, according to the experience of these professional superintendents of the education of the elephant, the nature of the animal is generally tractable. There are, however, great differences of character amongst them; which differences render it unsafe to trust too much to their

* Dow's Hindostan, p. lviii.

obedience before it has been fully proved. Of the three elephants with which Bishop Heber travelled in Onde, one was described by his mohout as a fine-tempered beast, but the other two, he said, were "great rascals." Unruly elephants are by no means uncommon. Isbrand Ides, an ambassador from the Czar of Russia to China, saw at Pekin an elephant fastened with great chains on account of his evil temper; and such was the apprehension of mischief from his escape, that a pit was dug by his side that he might fall in if he broke his fetters *. Dampier, describing the curiosities of Tonquin, says, "Some of the elephants are very gentle and governable; others are more indocile and unruly. When these rude ones are to pass through the streets, though only to be watered, the rider or dresser orders a gong or drum to be beaten before him, to warn people that an unruly elephant is coming; and they presently clear the streets and give a passage for the beast, who will do mischief to any that are in the way, and their riders or keepers cannot restrain him †." Shah-Jehan, the Mogul emperor, was so enraged by the disrespect of the ambassador of his rival, Shah-Abbas, the king of Persia, that he gave secret orders that when the ambassador entered a long and narrow street in the fortress of Delhi, leading to the hall of assembly, a vicious elephant should be let loose upon him ‡. The differences of character between elephants are so marked, that at the court of Siam, according to Tavernier, "if any favourite elephant falls sick and dies, he is, with funeral pomp, burned to ashes with reeds and the weight of his body of sweet wood; but if he be an offender, he is not burnt, but buried §." The temper of the elephant cannot

* Hist. Gen. des Voyages, v. 517.
† Dampier's Voyages, vol. ii. p. 68. ‡ Bernier, vol. i. p. 174.
§ Tavernier, p. ii. b. iii. c. 18.

always be calculated upon. The most morose will sometimes become perfectly docile, and the most gentle will occasionally be intractable and revengeful. Mr. Williamson tells an anecdote of a male elephant belonging to a gentleman at Chittagong, which he endeavoured for ten years, but in vain, to render obedient. "He was repeatedly offered for sale at a low price; but his character was so well known, that none would purchase him. It is customary in that district to have the fire-wood, which is cut into stumps of about a foot or less in diameter, and perhaps five or six feet long, piled regularly, and this work is usually performed by elephants; when properly trained they will execute it as well as any labourers. The animal in question could not be induced to perform this drudgery; and all attempts to enforce his obedience having proved useless, his master at last gave up the point: to his utter astonishment the elephant became suddenly good tempered, and went of his own free will to the wood-yard, where he not only exerted himself greatly, but was, in the regularity of his work, at least equal to those which had more practice *." Was this extraordinary change produced by any physical alteration in the animal; or was it the result of a process of reasoning, by which the creature discovered that the labour, to which his companions submitted, would be less annoying than the constant punishment and irritation to which he was subjected by his disobedience?

The elephant, like all other animals, is sometimes made unruly by injudicious punishment, and this might have been the case in the remarkable conduct above described. A fearful example of this came under the notice of Mr. Zoffany, an English artist, who painted a spirited picture of the circum-

* Oriental Field Sports, p. 30.

Enraged Elephant destroying his driver.

stance, of which he was an eye-witness. In the progress of the embassy from the Vizier of Oude, to Calcutta, to meet Lord Cornwallis, a male baggage elephant, carrying a number of people on his back, was suddenly irritated by his mohout, who struck him violently with his hawkuss. The unhappy man was in an instant pulled from his seat by the enraged beast, who suspended him by his trunk in a way which rendered escape impossible, and then dashed him to pieces. The foregoing wood-cut is taken from the principal group in Mr. Zoffany's representation.

Examples, such as this, of sudden and violent revenge, are comparatively rare. The elephant, however, is mindful of injuries, exactly in the same measure that he is grateful for benefits. The modes in which he avenges trifling wrongs are often extremely ludicrous; and these seem to be employed as if to afford satisfaction to his own consciousness of physical power. Every one recollects the story of the elephant at Delhi, that half-drowned an unhappy tailor with water from his trunk, because the man had pricked him with his needle, instead of giving him an apple. Mr. Williamson tells an anecdote of an elephant who used to be called the Paugul, or fool, but who vindicated his claim to another character in a very singular manner. He had refused to bear a greater weight upon a march than was agreeable to him, by constantly pulling part of the load off his back; and a quarter-master of brigade, irritated at his obstinacy, threw a tent-pin at his head. In a few days after, as the animal was going from the camp to water, he overtook the quarter-master, and, seizing him with his trunk, lifted him into a large tamarind tree which overhung the road, leaving him to cling to the boughs, and get down as well as he could. Lieut. Shipp, to try this memory of injuries, gave an ele-

phant a large quantity of Cayenne pepper between some bread. The animal was much irritated by the offence; and about six weeks after, when the unsuspecting joker went to fondle him, he endured the caresses very placidly, but finished the affair by drenching his persecutor with dirty water, from head to foot*. The keepers of our menageries have always some stories of the odd methods in which elephants avenge their wrongs. In a very pleasant book for young persons, abounding in valuable information, mention is made of a recent instance of this quality:—a man took hold of an elephant's tail in the streets of London, when the animal was so displeased by the indignity, that he turned suddenly round, and grasping the man with his trunk, placed him against some iron rails, where he kept him prisoner, till the keeper, by his entreaties, procured the offender's release †.

That the elephant should be sensible of injuries is not surprising; for, when once domesticated, he is of a confiding nature, and capable of strong attachment to human beings. Ælian tells us of an elephant that was passionately fond of a girl that sold flowers in the streets of Antioch; and Athenæus of one that so attached himself to a child, that he would only eat in his favourite's presence, and, when the little one slept, was incessantly occupied in driving away the flies which surrounded him. Strabo says that, sometimes, when the driver of an elephant is removed from him, he will pine to death. Lieut. Shipp has a very minute account of an elephant, who, having killed his mohout in a fit of rage, was so sensible of his offence, that he gradually lost his health, and died six months afterwards. In Purchas's

* Shipp's Memoirs, vol. ii. p. 268.
† Bertha's Visit to her Uncle in England.

collection of voyages there is a story of an elephant that mourned fifteen days for his master, the king of Ava, who was slain in battle. In such stories there is always some allowance to be made for the imagination of the persons who relate them; for it is to be observed that, of all subjects, that of the sagacity of animals admits of most exaggeration. We must believe just as much as is consistent with what we really know, and no more. It is not incredible that an elephant should feel the loss of his driver, in the same degree that a dog will exhibit unequivocal symptoms of grief in the absence of his master, and watch over his grave when he dies. The elephant, even as much, and perhaps more, than the dog, is indebted to those who have the care of him for a variety of agreeable sensations. In the East he is not only regularly fed, but carefully tended, so as to prevent the annoyances of heat and insects. "We went," says Tavernier, "to the river, to see the king's and great noblemen's elephants washed. When they have soaked themselves in the water, they are rubbed and cleaned with pumice-stone, and after they are dry they are rubbed with oil of cocoa." The elephant, too, "has learned to have a pride in the ornaments and trappings with which man, for the purpose of pomp and parade, has clothed him *." The painted hide, the embroidered housing, the silver bells suspended over the back by a massy chain, the rings of gold upon the tusks,—these are delights to the elephant, who, like other quadrupeds, and some bipeds, is proud of the badges of his slavery. Pliny, upon the authority of Antipater, relates that one of the elephants of Antiochus, being deprived of his silver trappings for refusing to sound the depth of a river, refused to eat, and died under

* Home, Comp. Anat., vol. iii. p. 181.

the disgrace. This is, doubtless, an exaggeration of a quality in the animal which was observed by the ancients as well as the moderns. But, unquestionably, the domesticated elephant delights in magnificence; and thus he is peculiarly adapted for the cumbrous pageantry of an Asiatic court. That he should adapt himself to the circumstances around him, and, as Bernier describes him, move with a solemn and dignified step, as if proud of his gorgeous attire, is a natural consequence of his extraordinary docility. But that he should have any instinctive veneration for the pageants of which he forms a part, or any natural reverence for the despots whose pride is flattered by them, is just as unlikely as that all other elephants should salam (make obedience) to those of Ceylon, in deference to their superior merits, as the Cingalese believe*. He becomes proud of his trappings because he is habituated to them upon all occasions of ceremonial, when he readily receives impressions in unison with the general pomp, from the words and gestures of those around him. And this consideration brings us to the various modes by which his docility is maintained.

The obedience of the elephant to his mohout is a habit which he acquires from the earliest hours of his captivity. One man invariably attends upon him—feeds, caresses, punishes him. On a journey, "the mohout says nothing, but guides him by pressing his legs to his neck, on the side to which he wishes him to turn, urging him forwards by the point of a formidable goad, and stopping him by a blow on the forehead with the butt-end of the same instrument†." The mohout is the real moving power of the elephant's services; the animal knows who bestrides him, and his obedience is rarely withheld. The

* Heber. † Ibid., i. 37.

attendants of the elephant practise a somewha ludicrous mode of assisting the command of the driver. "While the elephant is going on, a man walks by his side, telling him where to tread, bidding him 'take care,'—'step out,' warning him that the road is rough, slippery, &c., all which the animal is supposed to understand, and take his measures accordingly*." This assistance to the mohout is probably, in most cases, an unnecessary parade, arising from the almost infinite division of labour in Hindostan. But the practice of addressing the elephant in this manner proceeds from the general belief that he understands what is said to him. This belief is, of course, carried to a ridiculous excess in many instances; and it has even been accompanied by a notion that he can speak, as in the case of the elephant described by Christopher Acosta:—At Cochin, according to this writer, there was an elephant that worked at the port with all the skill of a human labourer. One day, when he was much fatigued, the governor of the port desired him to assist in launching a boat. The elephant refused; and the man of authority, having in vain employed all his caresses, commanded him to do it in the name of the King of Portugal. The loyal beast, it is added, instantly replied, "I will, I will," and performed his task. This story may explain some of the old fables of the elephant speaking; for, in the Malabar language, "I will," is expressed by "hoo,"—a very natural sound for an elephant to make, not upon the invocation of the King of Portugal, but upon the more effectual stimulus of the blow which probably accompanied the utterance of the magical name. Mr. Williamson says, that "elephants, after being some time in training, acquire a perfect intelligence regarding particular

* Heber.

words of command in general use. They will answer to their respective names ; and, uttering a shrill note, somewhat resembling the sound produced by blowing forcibly into a shell, resort to their mohouts when called*." The individual dogs of a kennel of hounds will do the same ; and both dogs and horses perfectly well understand words to which they are accustomed. Elephants apparently go somewhat further in their docility ; for they will perform particular acts, upon the promise of special rewards, such as arrack, or sweetmeats ; and it is extremely dangerous, when the work is finished, to make any attempt not to complete the bargain. This comprehension that he shall receive a gratification upon certain conditions of service, is probably induced in the elephant by accustoming him, in the first place, to see the promised reward, and systematically giving it to him after the work is done. A connexion would be thus established in the animal's mind between his own exertions and the benefit they were to procure him. At any rate, a distinct relation between the word and the thing must be clearly marked ; and from the necessary difficulty of doing this in any case where a different intelligence from the human is to be acted upon, it is evident that the use of language must be very limited. Words are used, probably, almost always in union with gestures ; and the gesture, when the animal is strictly habituated to one meaning for one movement of his instructor, is, in all likelihood, the more effectual mode of communication. The scene which has been described by the author of Waverley, where the justice of Hyder Ali was summarily executed upon an offender, by signal to an elephant, is not a fanciful picture†. Bishop

* Oriental Sports, p. 41.

† Chronicles of the Canongate—The Surgeon's Daughter.

Heber says, "the command these men (the mohouts) have over their elephants is well known; and a circumstance lately occurred of one of them making a sign to his beast, which was instantly obeyed, to kill a woman who had said something to offend him. The man was executed before our arrival *." Tavernier, travelling with the Mohammedan army of the Mogul, was astonished to see the elephants, to the great annoyance of the Hindoo inhabitants, seize upon the little images which stood before the pagodas, and dash them to pieces. Tavernier discovered the truth, although it was carefully concealed: the intolerant drivers made a signal to their animals to destroy the monuments of a worship which was offensive to them.

The most remarkable peculiarity in the docility of an elephant is the certainty with which he may be trusted to perform particular labours, without the immediate superintendence of man. That a well-trained one should be governed by a child, as is frequently the case, is not extraordinary; for a gentle horse will yield the same habitual obedience. But that the elephant should readily comprehend that he has an especial duty to accomplish, and patiently set about doing it in his own way, and without control or assistance, is certainly a forcible proof of a great docility, which could only be founded upon a superior sagacity. Many elephants are in the habit of tying their own legs at night †;—they are brought to this by custom. But they will perform duties of a variable nature, in which an uniform habit has not been acquired; and which could only be accomplished by an extreme aptitude of comprehension. Thus an elephant may supply the place of a nurse. "I have myself," says an officer who has served in India,

* Journal, i. 36. † Williamson.

" seen the wife of a mohout (for the followers often take their families with them to camp) give a baby in charge to an elephant, while she went on some business, and have been highly amused in observing the sagacity and care of the unwieldy nurse. The child, which, like most children, did not like to lie still in one position, would, as soon as left to itself, begin crawling about; in which exercise it would probably get among the legs of the animal, or entangled in the branches of the trees on which he was feeding; when the elephant would, in the most tender manner, disengage his charge, either by lifting it out of the way with his trunk, or by removing the impediments to its free progress. If the child had crawled to such a distance as to verge upon the limits of his range, (for the animal was chained by the leg to a peg driven into the ground,) he would stretch out his trunk, and lift it back as gently as possible to the spot whence it had started *." With the same judgment an elephant will task his strength, without human direction. " I have seen," says M. D'Obsonville, " two occupied in beating down a wall which their cornacs (keepers) had desired them to do, and encouraged them by a promise of fruits and brandy. They combined their efforts; and doubling up their trunks, which were guarded from injury by leather, thrust against the strongest part of the wall, and, by reiterated shocks, continued their attacks, still observing and following the effect of the equilibrium with their eyes; then, at last, making one grand effort, they suddenly drew back together, that they might not be wounded by the ruins." We have heard of an elephant at Barrackpoor, that would swim, laden with parcels, to the opposite shore of the Ganges, and then unload himself with the utmost

* Twelve Years' Military Adventure.

precision. In the year 1811, a lady, who related the circumstance to us, staying with her husband, an officer in the Company's service, at a house near the fort of Travancore, was astonished, early one morning, to observe an elephant, unattended, marching into the court-yard, carrying a box in his trunk, apparently very heavy. He deposited this, and going his way, soon returned with a similar box, which he placed by the side of the other. He continued this operation till he had formed a considerable pile, arranged with undeviating order. The boxes contained the treasure of the Rajah of Travancore, who had died in the night, and of whose property the English commander had taken possession, thus removing the more valuable for greater security.

"The oxen that served in the royal gardens of Susa, to water them, and turn certain great wheels to draw water for that purpose, to which buckets were fastened, (such as there are many in Languedoc,) being ordered every one to draw a hundred turns a day, they were so accustomed to this number, that it was impossible by any force to make them draw one turn more; but, their task being performed, they would suddenly stop and stand still*." The oxen of Susa had one unvarying task, such as that of a horse in a mill; and although it indicated some intelligence in the animals to know when that task was accomplished, this habitual accuracy is not to be compared, as an intellectual effort, to the discretion of the elephant. The oxen were wholly controlled by habit; the elephant accommodates himself to circumstances. When the old starved elephant which Bishop Heber saw, fell down, another elephant of very large size, and in somewhat better plight, was brought to assist. "I was much struck," says the

* Montaigne's Essays, book ii. c. 12.

Bishop, "with the almost human expression of surprise, alarm, and perplexity in his countenance, when he approached his fallen companion. They fastened a chain round his neck and the body of the sick beast, and urged him in all ways, by encouragement and blows, to drag him up, even thrusting spears into his flanks. He pulled stoutly for a minute; but on the first groan his companion gave he stopped short, turned fiercely round with a loud roar, and with his trunk and fore feet began to attempt to loosen the chain from his neck*." The sympathy of the animal for his suffering fellow was greater than his habitual obedience. But elephants accommodate themselves to circumstances in even a more extraordinary manner than such a refusal as this to perform a disagreeable task. The Baron de Lauriston states that he was at Lacknaor when an epidemic distemper was raging, and when the road to the palace was covered with the sick and the dying. The Nabob came out upon his elephant. His slaves, regardless of their unhappy fellow-creatures, made no attempt to clear the road; but the more charitable beast, without any command, lifted some out of the way with his trunk, and stepped so carefully among the rest that none were hurt. This was, probably, a high exercise of the instinctive faculty which we have already noticed, by which the bulky elephant has a terror of smaller animals coming in his path. An effect of intelligence, even more extraordinary than the instances we have mentioned, is recorded upon the authority of an artillery officer who witnessed the transaction. "The battering train going to the siege of Seringapatam had to cross the sandy bed of a river, that resembled other rivers of the Peninsula, which leave, during the dry season, but a small stream

* Journal, vol. ii. p. 47.

of water running through them, though their beds are mostly of considerable breadth, very heavy for draught, and abounding in quicksands. It happened that an artilleryman, who was seated on the tumbrill of one of the guns, by some accident fell off, in such a situation that, in a second or two, the hind wheel must have gone over him. The elephant which was stationed behind the gun, perceiving the predicament in which the man was, instantly, without any warning from its keepers, lifted up the wheel with its trunk, and kept it suspended till the carriage had passed clear of him*." Examples such as these, and many more that might be adduced, would lead us to conclude, although it may be presumptous to differ from one who has experience as a warrant for his opinions, that the sentence which a recent traveller has pronounced upon the sagacity of the elephant is somewhat hasty and prejudiced. Mr. Crawfurd says—"The courage and sagacity of this animal have been as much exaggerated as its modesty. Its bulk, its strength, and its trunk, are its great recommendations, especially the latter. If man has been called the wisest of animals, because he possesses hands, the elephant may, with as much truth, be called the wisest of quadrupeds, because he possesses a trunk. But for this instrument, and its great strength, I think it doubtful whether it would be ranked higher, in intellectual endowments, than a despised animal of the same natural family—the hog." That man has any right to be called the wisest of animals, *because* he possesses hands, is easily contradicted; for if the possession of hands were any measure of wisdom, the monkey, who has four, would be twice as wise as the man. The hog may possess as high intellectual endowments as the elephant—but we have yet no evi-

* Twelve Years' Military Adventure.

dence of such a fact. The elephant is very much his superior in general docility (for learned pigs are rare wonders), and the possession of great docility is generally an evidence of a high degree of intelligence.

It is not an unfrequent circumstance in India for a domesticated elephant to escape to the wild herd; and several who have thus thrown off the subjection of their masters have been retaken, after an absence of months, and even of years. This fact has been stated, by very competent observers, as an evidence against the sagacity of the animal. It appears to us only to prove that those who formerly asserted that it was not possible, by any art, to entrap an elephant a second time, were mistaken in this, as in many other notions, of the habits of this quadruped. There are two interesting accounts of elephants who had thus escaped, and were retaken, given by Mr. Corse in the Philosophical Transactions for 1799. In one instance, a female who had twice escaped, after having been perfectly domesticated as a riding elephant, was taken in the keddah as usual. She was easily recollected; for she seemed perfectly reconciled to her situation, attended to her name, came to the side of the keddah when called, ate from the hands of the hunters, and at last knelt down when she was directed. In another case, that of a male who had escaped about eighteen months, the animal was furious when retaken in the keddah, and in every respect appeared as wild and outrageous as the other elephants. At length an old hunter boldly rode up to him, he having been previously recognized, and ordered him to lie down, pulling him by the ear. The animal seemed quite taken by surprise, and instantly obeyed the word of command. The habit of obedience was stronger than the habit of liberty. These elephants had escaped upon some sudden im-

pulse;—one was frightened at coming upon a tiger's track. They were retaken, because they did not separate themselves from their companions who were

Warren Hastings' Elephant.

pursued by the hunters. Even this circumstance does not appear to disprove the general sagacity of the animal; for the individual recollections which these elephants retained of their state of captivity might not be unpleasant ones. One thing is certain,—that their habits of obedience were not eradicated by their long absence from servitude. They yielded themselves, without any continued resistance, to the control of their old masters:—and all that it may be necessary to shew of the domestic habits of the animal is comprised in his docility. That, it seems, cannot be changed by time or absence—by the pleasure of freedom or the fear of servitude. Without this readiness and constancy of obedience, how, indeed, could the elephant have ever been subdued, or how could he be retained in subjection?

Warren Hastings, the governor-general of India, possessed an elephant which had been ten years absent from the rule of man. His keeper being dismissed, he was refractory to all others who attempted to control him; and at length escaped to the wild herd. After the long interval we have mentioned, his old keeper recognized him in a keddah, and he instantly submitted himself to him. Mr. Zoffany painted the portrait of this animal; and in the key to his published print of a tiger-hunt, vouches for the authenticity of this account *.

* The preceding cut is from Mr. Zoffany's print. The instrument which the animal carries with his trunk is described as a cow-tail with a silver handle, which elephants of rank bear for driving off the flies.

Chapter VII.

EMPLOYMENT OF ELEPHANTS IN THE EAST.—TRAVELLING.—SPORTS.

"The Dutch East India Company," says Thunberg, "make use of elephants every where, to transport beams and other heavy articles*." Such an employment as this of the vast strength of the elephant is one of the most obvious modes of rendering him useful. That strength would naturally be applied, without much discrimination, to all cases where extraordinary force was required, in a state of society when the power of machinery was imperfectly understood, and under governments that were indifferent to the cost of maintaining a large stud of these animals. In this manner Kublai Khan covered an artificial hill with full-grown trees, removing them on the backs of elephants. "Not far from the palace, on the northern side, and about a bow-shot distance from the surrounding wall, is an artificial mound of earth, the height of which is full an hundred paces, and the circuit at the base about a mile. It is clothed with the most beautiful evergreen trees; for whenever his majesty receives information of a handsome tree growing in any place, he causes it to be dug up, with all its roots and the earth about them, and, however large and heavy it may be, he has it transported by means of elephants to this mount, and adds it to the verdant collection†." What an oriental despot accomplished, with the most profuse ex-

* Travels, ix. 245. † Marco Polo, book ii. chap. 6.

penditure of animal power, has been executed in our own day by a private gentleman, through the skilful application of scientific principles, at a very moderate expense *. When Timour built his great mosque at Samarcand, ninety-five elephants were engaged in drawing the stones. When ship-building was practised in a rude manner in India, elephants were employed to force the vessels off the stocks into the water. Verthema, who travelled in India in 1503, gives an example of their power of dragging ships on shore. "I saw an instance of the extraordinary strength of these animals while at Cananore, where some Mahometans endeavoured to draw a ship on the land, stern foremost, upon three rollers; on which occasion three elephants, commodiously applied, drew with great force, and, bending their heads down to the ground, brought the ship on the land †." In another place the same traveller says, "I once saw the trunk of a tree overthrown by one elephant, which twenty-four men had in vain attempted." We have already seen that the vast power of the animal has been exercised in beating down walls. In the war of Coromandel, in 1751, the gates of the fort of Ponomaley, in which the English under Clive made a spirited defence, were attempted to be battered down by elephants, whose foreheads were covered with iron plates ‡. Such uses of the power of this quadruped are, of course, fast yielding to the more effectual power of machines, which are maintained at less cost, and do their work with more precision. The present employment of elephants in the East is principally confined to the carriage of persons and of

* See the account of Sir Henry Steuart's park at Allanton; Library of Entertaining Knowledge, vol. ii.

† Hakluyt's Collection of Voyages.

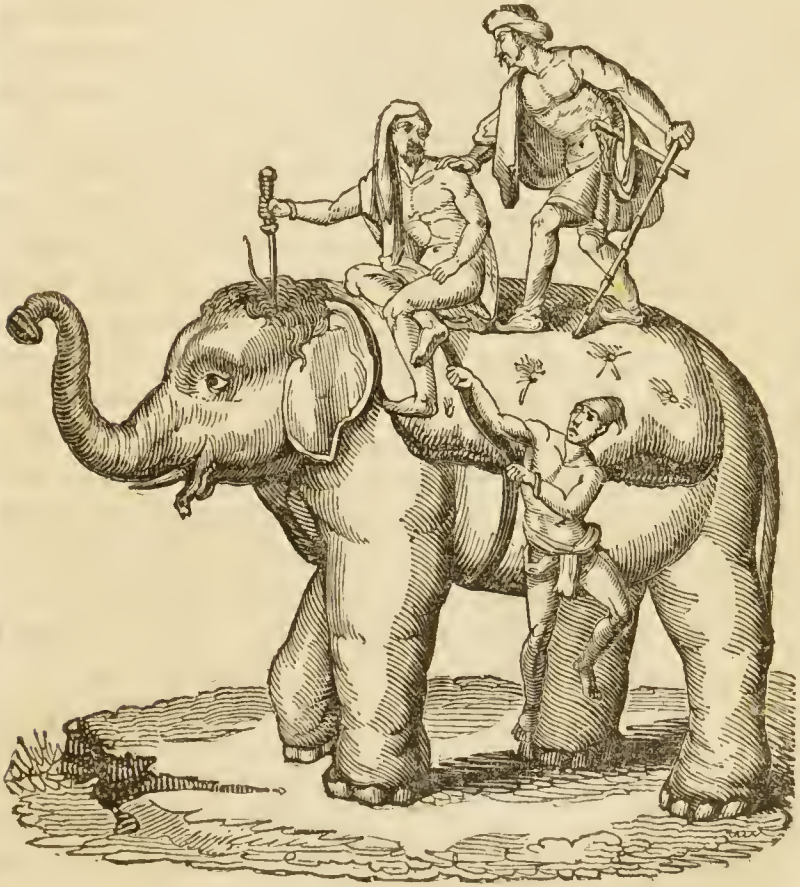
‡ Orme's Hindostan, vol. i. p. 198.

heavy burthens in travelling, and on the march of an army; to field sports; and to processions and ceremonials.

"At Barrackpoor," says Bishop Heber, "for the first time I mounted an elephant, the motion of which I thought far from disagreeable, though very different from that of a horse. As the animal moves both feet on the same side at once, the sensation is like that of being carried on a man's shoulders. A full-grown elephant carries two persons in the 'howdah,' besides the 'mohout,' who sits on his neck, and a servant on the crupper behind, with an umbrella. The howdah itself, which Europeans use, is not unlike the body of a small gig, but without a head*." Capt. Williamson, who possessed, probably, much of the sportsman's desire of rapid motion, says, "the gait of an elephant is very peculiar, being similar to the artificial pace of ambling taught to some horses. It is far from displeasing in a horse, but causes such a motion, when mounted on an elephant, as rarely to be borne for any distance. Indeed, I know nothing more uncomfortable and tedious, I may even say painful, than a long journey in a howdah. It occasions a lassitude not to be described. We must suppose that habit reconciles persons to it, as we see the natives travel, for perhaps twenty miles or more in a forenoon, without any apparent uneasiness. The largest elephants are, in general, the most uncomfortable in this respect†." The smaller elephants are sometimes ridden with a saddle and stirrups. Others have a pad, on which six or eight persons can sit, some astride and some sideways. The animal kneels down, that the riders may ascend; and as he is generally impatient while being mounted,

* Journal, i. 36. † Oriental Sports, p. 31.

a man puts his foot upon his fore-leg, and sometimes even presses it with a spear*. A ladder is attached to the elephant's side, for the use of those who ride in the howdah. The natives descend from their seats upon the pad by means of a rope.



The guidance of an elephant upon which persons of wealth and authority ride, in British India, is invariably committed to the mohout. In Ava, the practice is different. Mr. Crawfurd says, "After the

* Oriental Sports, p. 31.

elephant combats were over, the king prepared to take his departure. His elephant, one of the noblest animals I have ever seen, having the trunk, head, and part of the neck, of a white flesh-colour, and in other respects altogether perfect, was brought up close to the shed under which we were sitting, and he mounted it with great agility, placed himself upon the neck of the animal, took the hook in his hand, and seemed to be perfectly at home in this employment. We afterwards saw the heir-apparent, a child of thirteen years of age, guiding his elephant in the same way. This practice is, I believe, peculiar to the Burmans: for, in Western India, at least, no person of condition ever condescends to guide his own elephant. There is, at least, some manliness in the custom; and I should not be surprised to find that the neck of the elephant would be found, on experience, the most agreeable and easy seat to the rider." The Emperor Akbar, in the same manner, rode every kind of elephant, making them obedient to his command; and he carried his manliness even farther than the Kings of Ava, for, "in the rutting season, he frequently puts his feet upon the tusks of the elephant and mounts him, to the astonishment of those who are used to these animals*."

In the present times the employment of elephants in oriental travelling has little of the ancient pomp and splendour which used to attend the progresses of the Mogul princes. A native rajah now and then comes into Calcutta, upon some mission to the British authorities, riding in a magnificent howdah, with his elephant covered with brilliant trappings. But, generally, the stately animal is used for the conveyance of the manifold servants that wait upon the rich in India; or he is laden with tents and tent-

* Ayeen Akbery.

poles, or with water-bottles, and pots, and saucepans, and every other paraphernalia of the kitchen, slung about his body in all directions. His appearance, then, is somewhat more ludicrous than dignified. But in the days of Timour, when the despot rode "in a chariot with four wheels, upon which is a fair chamber of sweet-smelling lignum aloes, which is within covered with plates of fine gold, dubbed with precious stones and great pearls, and drawn by four elephants*;" or in those of Akbar, when "magnificent amarees were put upon the backs of swift-paced elephants†;" or in those of Jehanghir, who rode on an elephant through the streets of his capital, followed by "twenty royal elephants for his own ascending, so rich, that in precious stones and furniture they braved the sun," and whose "wives, on their elephants, were carried like parakitoes (paroquets), half a mile behind him‡;" in those days the journeys of the elephant were occasions of habitual pomp. The most minute description of these splendours may be found in Bernier's account of the progress of Aurengzebe, from Delhi to Kashmire, in the year 1664.

The perfection of European travelling is extreme speed; the march of this Mogul prince through his dominions was as measured as a funeral pageant. Bernier, after having been two months on the road from Delhi to Lahore, a distance of a hundred and twenty leagues—about the same that an English mail performs in forty-eight hours—says, "this is indeed slow and solemn marching." When we consider, however, the retinue with which Aurengzebe moved, we shall cease to wonder at the pace at which he advanced. "In this march from Delhi to

* Sir John Maundeville.

† Ayeen Akbery. An amaree, or amari, is a seat with a canopy.

‡ Sir T. Rowe, quoted in Purchas.

Kashmire," says Bernier, "there are at least one hundred thousand horsemen, and more than one hundred and fifty thousand animals, comprising horses, mules, and elephants; besides these, there cannot be much less than fifty thousand camels, and nearly as many oxen and horses, employed to carry the wives and children, the grain, and other provisions belonging to the poor people connected with the bazaars, who, when they travel, take with them, like the gypsies, the whole of their families, goods and chattels. The servants in the army must be indeed numerous, since nothing is done without their assistance. Many are of opinion that the camp contains between three and four hundred thousand persons*." The principal uses of the elephants in this enormous throng were to carry "the most bulky things, such as the large tents, with their heavy pillars;" and to administer to the splendour of the prince and his court. "Sometimes the king rides on horseback, especially when the weather is favourable for hunting: and at other times he is carried by an elephant, in a mik-dember, or in a hauze, which is by far the most striking and splendid style of travelling, as nothing can surpass the richness and magnificence of the harness and trappings. The mik-dember is a small house, or square wooden tower, gilt and painted; and the hauze, an oval chair with a canopy of pillars, also superbly decorated with colours and gold†."

The mind of Bernier, who appears to have had an uncommon share of the liveliness of the French character, was highly excited by the splendours of the seraglio, in this extraordinary march. He dwells upon the different modes of travelling used by "the princesses and great ladies;" the gilt and painted "tchan-

* Travels, ii. 118. † Travels, ii. 106.

doules which are borne on men's shoulders," and the "stately and close palanquins." But the pageantry of the elephants employed in the conveyance of "these lovely and distinguished females,"—the costly furniture, the silver bells, the latticed mik-dembers covered with silken nets, the embroidery, and fringes and tassels,—seem to have principally gratified his eager curiosity. "I cannot avoid," he says, "dwelling on this pompous procession of the seraglio. It strongly arrested my attention during the late march, and I feel delight in recalling it to my memory. Stretch imagination to its utmost limits, and you can conceive no exhibition more grand and imposing than when Rochinara Begum (Aurengzebe's sister), mounted on a stupendous Pegu elephant, and seated in a mik-dember blazing with gold and azure, is followed by five or six other elephants with mik-dembers nearly as resplendent as her own, and filled with ladies attached to her household. Close to the princess are the chief eunuchs, richly adorned and finely mounted, each with a cane in his hand; and, surrounding her elephant, a troop of female servants from Tartary and Kashmire, fantastically attired, and riding handsome pad-horses. Besides these attendants are several eunuchs on horseback, accompanied by a multitude of pagys, or lackeys, on foot, with large canes, who advance a great way before the princess, both to the right and to the left, for the purpose of clearing the road, and driving before them every intruder. Immediately behind Rochinara Begum's retinue, appears a principal lady of the court, mounted and attended much in the same manner as the princess. This lady is followed by a third; she by a fourth; and so on, until fifteen or sixteen females of quality pass, with a grandeur of appearance, equipage, and retinue, more or less proportionate to their rank, pay, and office. There is

something very impressive of state and royalty in the march of these sixty or more elephants; in their solemn, and, as it were, measured steps; in the splendour of their mik-dembers, and the brilliant and innumerable followers in attendance: and if I had not regarded this display of magnificence with a sort of philosophical indifference, I should have been apt to be carried away by the similar flights of imagination as inspire most of the Indian poets, when they represent the elephants as conveying so many goddesses, concealed from the vulgar gaze*." The "philosophical indifference" to such pageants is to be found in the consideration that they cannot exist but in connexion with despotic power; and that the splendour of such kings as Timour and Aurengzebe was bought at the enormous price of the liberty and happiness of the people over whom they ruled. The simplicity which is one of the best characteristics of a free government is far less gratifying to the fancy, but it affords an infinitely higher pleasure—it satisfies the reason.

The progresses of the Mogul princes through their dominions were ordinarily connected with the purpose of affording the monarch the pleasures of the chase. They took the field against the antelope and the tiger with the same parade that they went to war. In the camp of Aurengzebe there were tents for choice elephants, and for the animals employed in hunting; for the birds of prey; for dogs; for leopards; for nyl-ghaus, and Bengal buffaloes; and even for lions and rhinoceroses, carried only for shew. All the uncultivated land on the road was guarded with the utmost vigilance, to preserve the game for the king and

* The readers of modern poetry will remember the Introduction to 'Lalla Rookh,' in which the elephants that set out from Delhi are described "bearing on their backs small turrets, in the shape of little antique temples, within which the ladies of Lalla Rookh lay, as it were, enshrined."

his nobles, and the severest punishments were inflicted upon those who disturbed it. Human nature is the same, whether in Asia or in Europe; and the great, therefore, have always sought to be exclusive, and to be tyrannical in their exclusiveness. In the reign of Kublai Khan it was "strictly forbidden to every tradesman, mechanic, or husbandman, throughout his majesty's dominions, to keep a vulture, hawk, or any other bird used for the pursuit of game, or any sporting dog;"—but as the will of the one tyrant was supreme, the game-laws reached even the highest; for no nobleman or cavalier was "to presume to chase beast or bird, in the neighbourhood of the place where his majesty takes up his residence*." The king, therefore, had an abundant command of well-stocked domain, sufficient, indeed, to satisfy any admirer of the modern *battu*. The great ambition of the Mogul, in the time of Aurengzebe, was to kill a lion, mounted upon his elephant. Such an event gratified his pride, and was a favourable omen for the state. Bernier has described this ceremony with his usual spirit:—

"But of all the diversions of the field the hunting of the lion is not only the most perilous, but it is peculiarly royal; for, except by special permission, the king and princes are the only persons who engage in the sport. As a preliminary step, an ass is tied near the spot where the gamekeepers have ascertained the lion retires. The wretched animal is soon devoured, and after so ample a meal the lion never seeks for other prey, but, without molesting either oxen, sheep, or shepherd, goes in quest of water, and, after quenching his thirst, returns to his former place of retirement. He sleeps until the next morning, when he finds and devours another ass,

* Marco Polo.

which the gamekeepers have brought to the same spot. In this way they contrive, during several days, to allure the lion, and to attach him to one place; and when information is received of the king's approach, they fasten at the spot an ass where so many others have been sacrificed, down whose throat a large quantity of opium has been forced. This last meal is of course intended to produce a soporific effect upon the lion. The next operation is to spread, by means of the peasantry of the adjacent villages, large nets, made on purpose, which are gradually drawn closer, in the manner practised in hunting nil-ghaus. Every thing being in this state of preparation, the king appears on an elephant barbed with iron, and attended by the grand master of the hunt, some omrahs mounted on elephants, and a great number of gourze-berdars on horseback, and of gamekeepers on foot, armed with half-pikes. He immediately approaches the net on the outside, and fires at the lion with a large musketoon. The wounded animal makes a spring at the elephant, according to the invariable practice of lions, but is arrested by the net; and the king continues to discharge his musketoon, until the lion is at length killed.

"It happened, however, during the last hunt, that the enraged animal leaped over the net, rushed upon a cavalier, whose horse he killed, and then effected his escape for a time. Being pursued by the huntsmen, he was at length found, and again enclosed in nets. The whole army was on that occasion subjected to great inconveniences and thrown into a considerable degree of confusion. We remained three or four days patrolling in a country intersected with torrents from the mountains, and covered with underwood and long grass that nearly concealed the camels. No bazaars had been formed, and there were no towns or villages near the army. Happy

those who, during this scene of disorder, could satify the cravings of hunger! Shall I explain the weighty reason of this long detention in such abominable quarters? You must know, then, that as it is considered a favourable omen when the king kills a lion, so is the escape of that animal portentous of infinite evil to the state. Accordingly, the termination of the hunt is attended with much grave ceremony. The king being seated in the general assembly of the omrahs, the dead lion is brought before him, and when the carcase has been accurately measured, and minutely examined, it is recorded in the royal archives that such a king on such a day slew a lion of such a size and of such a skin, whose teeth were of such a length, and whose claws were of such dimensions*."

We find in the annals of Hindostan that the lion was occasionally hunted without these precautions. Bernier gives us a remarkable instance. Aurengzebe, who was gratified by displays of personal courage, and who had distinguished himself when a youth by attacking an elephant single-handed†, commanded his son, Sultan Mauzum, "in a full assembly of omrahs, to kill a lion which had descended from the mountains, and was then laying waste the surrounding country. The grand master of the hunt ventured to hope that Sultan Mauzum might be permitted to avail himself of those capacious nets which are ordinarily made use of in so perilous a chase. 'He shall attack the lion without nets,' sternly replied the king. 'When I was prince I thought not of such precautions.' An order given in so decisive a tone could not be disobeyed. The prince declined not the fearful undertaking. He encountered and overcame the tremendous beast with the loss of only

* Travels, vol. ii. p. 115. † Dow.

two or three men; some horses were mangled, and the wounded lion bounded on the head of the Sultan's elephant *."

Marco Polo has recorded, with great minuteness, the mode of the Grand Khan's proceeding to the chase, with his ten thousand falconers, and ten thousand "tarkaol," or waiters, whose duty it was to secure the stray falcons. "On account of the narrowness of the passes in some parts of the country where his majesty follows the chase, he is borne upon two elephants only, or sometimes a single one, being more convenient than a greater number. But under other circumstances he makes use of four, upon the backs of which is placed a pavilion of wood, handsomely carved, the inside being lined with cloth of gold, and the outside covered with the skins of lions—a mode of conveyance which is rendered necessary to him during his hunting excursions, in consequence of the gout with which his majesty is troubled. In the pavilion he always carries with him twelve of his best gerfalcons, with twelve officers, from amongst his favourites, to bear him company and amuse him. Those who are on horseback by his side give him notice of the approach of cranes, or other birds, upon which he raises the curtain of the pavilion, and when he espies the game, gives direction for letting fly the gerfalcons, which seize the cranes and overpower them after a long struggle. The view of this sport, as he lies upon his couch, affords extreme satisfaction to his majesty." It would be difficult to imagine a more absurd attitude of despotism, than is here described,—a whole district thrown into confusion, useful labours suspended, private property violated by thousands of armed hunters, and the entire population subjected to odious restraints, that a gouty

* Travels, vol. i, p. 204.

man may look out of his pavilion, borne upon the backs of four elephants, to see a gerfalcon destroy a crane.

The magnificent hunting expeditions of the Indian princes, which had all the parade and much of the excitement of war, were continued almost to our own times. The Nawaub of Oude, Vizier Ally, or Asoph-ul-Doulah, who was raised to the throne by the assistance of the British government, (he died in 1818,) was a prince of the most profuse expenditure; and his sports were conducted upon a scale that approached even to the splendours of Kublai Khan or Aurengzebe. He generally took the field in the month of March, accompanied by ten thousand cavalry and as many infantry, and from seven to eight hundred elephants. From forty to sixty thousand people followed the camp, with grain and merchandise. When the Vizier set out from his palace at Lucknow, a line was formed with the prince in the centre, mounted on an elephant, with two attendant elephants, one carrying his state howdah, the other his sporting howdah. A line of elephants was prolonged on each side the prince, and was flanked at each extremity by the cavalry. The immense cavalcade proceeded straight through the country, regardless of the mischief that was a necessary consequence, the poor cultivators running after the Vizier, crying aloud for mercy. When any game was started, a continued fire was kept up along the line; and if a herd of antelopes was discovered, the elephants halted, and the cavalry hemmed them in, that his highness and his courtiers might leisurely destroy them. Proceeding in this manner by day, and halting in the evening at appointed stations, where every luxury was prepared in sumptuous tents, the army at length approached the Thibet mountains, where tigers, panthers, leopards, and buffaloes were to be found.

An encampment being formed, their sporting was conducted for several weeks upon a grand and formidable scale; and, mounted upon their elephants, the prince and his nobles scoured the country in pursuit of the ferocious beasts that destroyed the flocks and herds of the peasantry. The array of despotism was here of some service; for the number of carnivorous animals that were killed was generally in proportion to the magnitude of the force employed against them *. Such scenes as this, however, belong to another age and system of government than now prevails in British India. The gorgeous power of the native chiefs is gradually vanishing before the quiet strength of European conquest and civilization; and the destruction of the tiger and the leopard is left to such individuals as seek the danger for its excitement, or to the hunter by profession, who perils his life for a small reward.

Although the elephant is not a native of Persia, at the present day, there is tolerable evidence that he was once employed in that country both in war and the chase. On an ancient arch, described by Sir R. K. Porter, are representations in bas-relief, of a boar-hunt, in which some of the riders are mounted on horses, and others on elephants, which are plunging on every side through the marshy bushes.

The elephant is invariably employed in India in hunting the tiger. His delicate scent, his strength to make his way through the thickest covers, his sagacity, and especially his great stature, by which the hunter is lifted out of danger, render him peculiarly fitted for such a work. Horses cannot be brought to follow the track of a tiger; and camels are unable to defend themselves if attacked by the ferocious

* For a minute description of the huntings of Vizier Ally, see Johnson's Indian Field Sports, chap. ix.

beast. The hunting party is generally numerous and the sportsmen, seated in their howdahs, fearlessly proceed into the jungle, well-armed for the expected combat.

Hunters in a howdah.

Occasionally the hunter, with his rifle, is mounted upon an elephant's back. The presence of the tiger is generally made known by the elephants, which, scenting their enemy, become agitated, and make that peculiar trumpeting which indicates their alarm. If the tiger move, many of the elephants become ungovernable; their trunks are thrown up into the air; if they consent to go forward, their cautious steps evince their apprehensions. Those that remain steady under such circumstances are considered particularly valuable. If the motion of an animal through the jungle is perceived, the nearest elephant is halted, and the rider fires in the direction of the waving rushes. The tiger is sometimes wounded by these random shots; and he then generally bounds through the cover towards the nearest elephant. Very few elephants can then resist the impulse of their fears. If the trunk, which the animal invariably throws up as far as possible out of reach, should be scratched by the tiger, all command is lost. Mr. Williamson describes an occurrence of this sort, which happened to two gentlemen of the Bengal army. "They had been in the habit of killing tigers with only one elephant, on which being mounted, they one day roused a tiger of a very fierce disposition. The animal, after doing some mischief among the dogs, which baited him very courageously, at length darted at the elephant's head; and, though foiled in the attempt to get upon it, nevertheless scratched her trunk severely. No sooner did she feel the tiger's claws penetrating her proboscis, than she turned round, and set off at full speed, roaring most vehemently. She seemed to have lost her senses, and to be bent on mischief: for wherever she saw a living object she pursued it, totally heedless of the mohout's endeavours to guide or restrain her." She was at length, by fatigue and management, brought into a

Tiger at bay.

governable state, but she was spoiled for tiger hunting. The preceding representation of the tiger at bay is from the Oriental Field Sports.

We extract from Mr. Williamson's work an interesting narrative of a remarkable escape, when a tiger sprung upon an elephant, and was destroyed without injury to the animal or its riders :—

"The tiger had satiated himself upon a bullock he had killed, and lay lurking in the grass, which was as high as the backs of the elephants, and very thick, not far from the remains of the bullock. He was extremely cunning, and crouched so close as to render it for a long time doubtful whether he was in the jungle or not. The symptoms displayed by the elephants, on approaching the place where he lay concealed, induced the party to persevere in their efforts to rouse him. One gentleman particularly urged his mohout to make his elephant beat the spot where the scent was strongest: which being done, in spite of the tremendous tones of the agitated animal, the tiger, finding himself compelled either to resist, or to submit to being trodden upon, sprang upon the elephant's quarter, and so far succeeded as to fix his claws in the pad: his hind legs were somewhat spread, and their claws were fixed into the fleshy membranes of the elephant's thigh. Actuated by the excess of fear, occasioned by so sudden and so painful an attack, the elephant dashed through the cover at a surprising rate; the tiger holding fast by its fore paws, and supported by its hinder ones; unable, however, in consequence of the rapid and irregular motions of the elephant, either to raise himself any higher, or to quit the hold he had so firmly taken with his claws. The gentleman, who had much ado to keep his seat, was precluded firing at his grim companion, as well from his unprecedented situation, as from the great danger of wounding some of the numerous

Tiger springing.

followers, who were exerting the utmost speed of their respective elephants, to come up to his assistance. The constant desire felt by the elephant to get rid of his unwelcome rider, which produced a waving and irregular pace, gave the opportunity, for those who were mounted on light and speedy animals, to overtake the singular fugitives. Another gentleman of the party coming up close, was enabled to choose his position; when, taking a safe aim, he shot the tiger, which fell to the ground and required no farther operations *."

A well-trained elephant has been known to catch the springing tiger upon his tusks. This, however, is a rare accomplishment. If their enemy falls near them, they will instantly kneel upon his body, at the same time transfixing him to the earth. This is partly an effect of instinct and partly of education. They are first familiarized to the appearance of a tiger, by a stuffed skin being thrown in their way, upon which they are taught to trample and kneel. A calf is sometimes put inside the skin;—and then the elephant is indeed terrified. Some become so excessively alarmed, that no threats or entreaties will induce them to go near the object of their dread. Others are more courageous; and these, of course, are selected for occasions of real peril. One of the most difficult operations in this course of instruction is to persuade the elephant to bear a dead tiger on his back. Mr. Williamson saw a tiger, which had been insufficiently secured on the back of an elephant, fall off on the way home from the chase; the poor animal was so terrified at the moment, that he resisted every attempt to replace the carcase, and no other elephant in the field would endure the hateful burthen †.

* Oriental Field Sports, p. 72.

† In the first volume of this work, p. 188, will be found a description of a tiger hunt, in which Bishop Heber was engaged.

Dead Tiger.

The elephant has an equal terror of the rhinoceros. It appears, from some statements in which Mr. Williamson confided, that if a herd of elephants encounter this formidable animal, they retreat, if possible, without hazarding an encounter. Major Lally stated to the author of Oriental Field Sports, that he once witnessed, from a distant hill, a most desperate engagement between a large male and a rhinoceros, in which the elephant was worsted and fled*. From

* The cut representing an "Elephant attacked by a Rhinoceros" is from Capt. Williamson's work.

Elephant attacked by a Rhinoceros.

the Memoirs of Baber, however, we collect that the terror is mutual. "When we had gone a short way, a man came after us with notice that a rhinoceros had entered a little wood near Bekrâm, and that they had surrounded the wood, and were waiting for us. We immediately proceeded towards the wood, at full gallop, and cast a ring round it. Instantly, on our raising the shout, the rhinoceros issued out into the plain, and took to flight. They followed it for nearly a kos, shot many arrows at it, and finally brought it down. This rhinoceros did not make a good set at any person, or any horse. They afterwards killed another rhinoceros. I had often amused myself with conjecturing how an elephant and rhinoceros would behave if brought to face each other; on this occasion the elephant keepers brought out the elephants so that one elephant fell right in with the rhinoceros. As soon as the elephant-drivers put their beasts in motion, the rhinoceros would not come up, but immediately ran off in another direction *."

* Memoirs, p. 292.

Chapter VIII.

EMPLOYMENT OF ELEPHANTS IN THE EAST, CONTINUED.—EXHIBITIONS OF CRUELTY.—PROCESSIONS AND CEREMONIALS.

The delight in brutal sports, which, in all ages and in all countries, has been felt by the multitude—that is, by the high as well as the low vulgar—is too universal to be ascribed to particular conditions of social refinement. Sound knowledge, leading the mind to despise the coarse excitements of unintellectual curiosity, and genuine religion, which teaches us

> "Never to blend our pleasure or our pride
> With sorrow of the meanest thing that feels,"

must indeed greatly diminish the popular tendency towards such gratifications. Nevertheless, amongst all nations, that rude exercise of instinctive tyranny, which makes the school-boy torment a chafer, and the ferocious "children of a larger growth" assemble to witness the sufferings of a bear or a badger, still displays itself in a thousand forms of cruelty, in spite of the control of education, the chastisements of law, or the power of public opinion. In tracing the history of particular quadrupeds, it will be necessary to exhibit the infinitely various modes in which a perverse ingenuity has compelled them to administer a barbarous pleasure to the cruel propensities of man. Such inquiries are painful and revolting,—but they

cannot be omitted; for they shew, perhaps more forcibly than any other instances, how the sense of right and wrong is deadened by custom; and how, therefore, by the evil power of example, and the nourishment of a heartless sophistry, the most exalted in rank amongst refined nations,—magistrates, statesmen, and even women, whose principal attributes should be delicacy and tenderness—have not only come to look upon public exhibitions of cruelty without abhorrence, but absolutely to rejoice and feel proud in witnessing the fierce contests of animals whose passions have been artificially excited—to be critical in their observance of the prowess of the contending victims—to mark with rapture the glazing eye and the quivering limb of the weaker in the fight—and to shout over the agonies of exhausted nature, with the glory of the savage that has sated his vengeance upon his enemy at the stake.

The elephant, although the mildest and most inoffensive of quadrupeds, has always been a sufferer from this propensity of man to cruel sports. In India, elephants are to this day baited; and the native chiefs and nobles attach great importance to these displays. When Bishop Heber was at the Court of Baroda, "The Raja," he says, "was anxious to know whether I had observed his rhinoceros and his hunting tigers, and offered to shew me a day's sport with the last, or to bait an elephant for me; a cruel amusement which is here not uncommon. . . . . I do not think he understood my motive for declining to be present. A Mussulman, however, who sat near him, seemed pleased by my refusal, said it was 'very good,' and asked me if any of the English clergy attended such sports. I said it was a maxim with most of us to do no harm to any creature needlessly: which was, he said, the doctrine

of their learned men also*." At the palace of Jyepoor, says the same humane person, "we were shewn five or six elephants in training for a fight. Each was separately kept in a small paved court, with a little litter, but very dirty. They were all what is called 'must,' that is, fed on stimulating substances to make them furious; and all shewed in their eyes, their gaping mouths, and the constant motion of their trunks, signs of fever and restlessness. Their mohouts seemed to approach them with great caution; and on hearing a step they turned round as far as their chains would allow, and lashed fiercely with their trunks. I was moved and disgusted at the sight of so noble creatures, thus maddened and diseased by the absurd cruelty of man, in order that they might for his diversion inflict fresh pain and injuries on each other†." In the combats of elephants, according to Mr. Crawfurd, "after a rencontre, which does not last above a few seconds, one of the parties is sure to run away." At Ava, the elephants, bearing riders, are fought across a stout paling. They are brought up to the charge with much spirit, but often refuse to engage. They have but one mode of fighting—they butt with the forehead, and endeavour to wound each other with their tusks‡. Father Tachard, a French jesuit, who visited Siam in 1685, saw elephants fight before the king of that country. The two animals were very furious; but they were so strongly bound to a stake by the hind legs, and the distance between them was so accurately measured, that they could not severely wound each other, but only twisted their tusks together in great wrath. The victor, on these

* Journal, vol. iii. p. 11.

† Journal, vol. ii. p. 405. ‡ Embassy to Ava, p. 306.

occasions, was the animal that first broke his opponent's tusk*. Elephant fights have always been favourite diversions of the princes of India. The emperor Akbar built an amphitheatre for these combats, at Agra†. Robert Covert, an Englishman who travelled in Hindostan in 1609, in his description of Agra, "tells of elephants fighting before the Mogul, parted with rockets of wild-fire, made round like hoops, which they run in their faces‡." This statement would shew that the animals, when infuriated, are not easily parted. On the contrary, Baldæus, a Dutch minister who lived many years in India, relates that "the elephants made to fight with one another, before the Great Mogul, manage the combat with a far greater agility and courage than one would imagine, obediently falling to and desisting according to the word given, and embracing one another lovingly with their trunks, as soon as they are commanded to end the combat§." Pliny says, that thirty elephants on a side, which king Bocchus brought to combat each other, refused to fight‖; and this passage offers a confirmation of Mr. Crawfurd's assertion, that they are not pugnacious. Bernier, however, who was a very careful observer, corroborates the statement of Robert Covert; and this picture of an elephant fight, by an eye-witness of undisputed veracity, would shew that the elephants of Ava, which Mr. Crawfurd saw, have not the courage of the species in other parts of Asia. The passage in Bernier is very curious:—

"The festivals generally conclude with an amusement unknown in Europe,—a combat between two

* Hist. Gen. des Voyages, vol. ix. p. 151. † Ayeen Akbery.
‡ Purchas, vol. i. p. 601. § Phil. Trans. 1671.
‖ Hist. Nat., lib. viii. chap. 5.

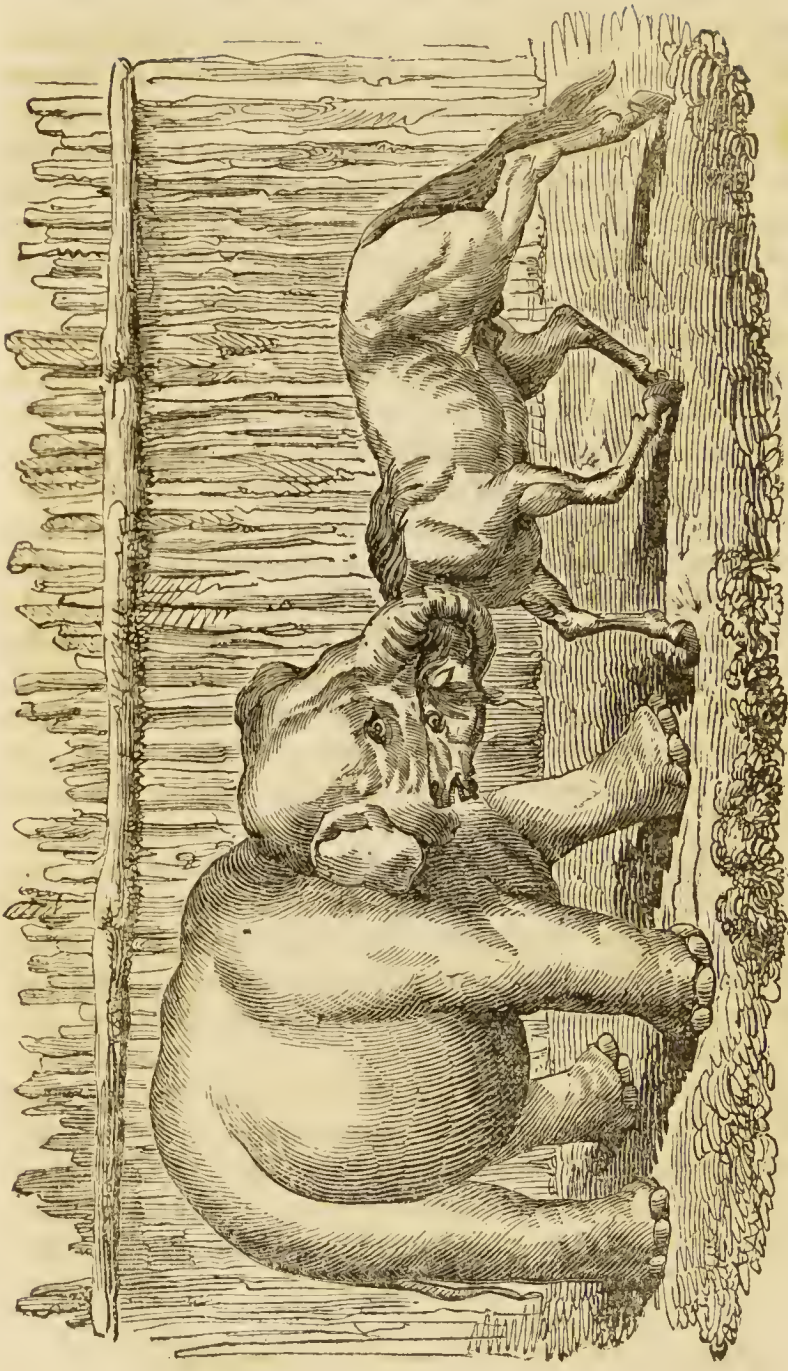
elephants; which takes place in the presence of all the people, on the sandy space near the river; the king, the principal ladies of the court, and the omrahs, viewing the spectacle from different apartments in the fortress.

"A wall of earth is raised three or four French feet wide, and five or six high. The two ponderous beasts meet one another face to face, on opposite sides of the wall, each having a couple of riders, that the place of the man who sits on the shoulders, for the purpose of guiding the elephant with a large iron hook, may immediately be supplied if he should be thrown down. The riders animate the elephants either by soothing words, or by chiding them as cowards, and urge them on with their heels, until the poor creatures approach the wall and are brought to the attack. The shock is tremendous, and it appears surprising that they ever survive the dreadful wounds and blows inflicted with their teeth, their heads, and their trunks. There are frequent pauses during the fight; it is suspended and renewed; and the mud wall being at length thrown down, the stronger or more courageous elephant passes on and attacks his opponent, and putting him to flight, pursues and fastens upon him with so much obstinacy, that the animals can be separated only by means of cherkys, or fire-works, which are made to explode between them; for they are naturally timid, and have a particular dread of fire, which is the reason why elephants have been used with so very little advantage in armies, since the use of fire-arms. The boldest come from Ceylon, but none are employed in war which have not been regularly trained, and accustomed for years to the discharge of muskets close to their heads, and the bursting of crackers between their legs.

"The fight of these noble creatures is attended with much cruelty. It frequently happens that some of the riders are trodden under foot, and killed on the spot, the elephant having always cunning enough to feel the importance of dismounting the rider of his adversary, whom he therefore endeavours to strike down with his trunk. So imminent is the danger considered, that on the day of combat the unhappy men take the same formal leave of their wives and children, as if condemned to death. They are somewhat consoled by the reflection that if their lives should be preserved, and the king be pleased with their conduct, not only will their pay be augmented, but a sack of peyssas (equal to fifty francs) will be presented to them the moment they alight from the elephant. They have also the satisfaction of knowing that, in the event of their death, the pay will be continued to the widows, and that their sons will be appointed to the same situation. The mischief with which this amusement is attended does not always terminate with the death of the rider: it often happens that some of the spectators are knocked down, and trampled upon by the elephants, or by the crowd; for the rush is terrible when, to avoid the infuriated combatants, men and horses in confusion take to flight. The second time I witnessed this exhibition, I owed my safety entirely to the goodness of my horse, and the exertions of my two servants*."

The barbarous sports of the amphitheatre appear to have furnished the chief amusements of the luxurious princes of the Mogul empire. About the middle of the seventeenth century, "the daily diversions of the Mogul, except on Fridays, were to

* Travels, vol. i. p. 314.

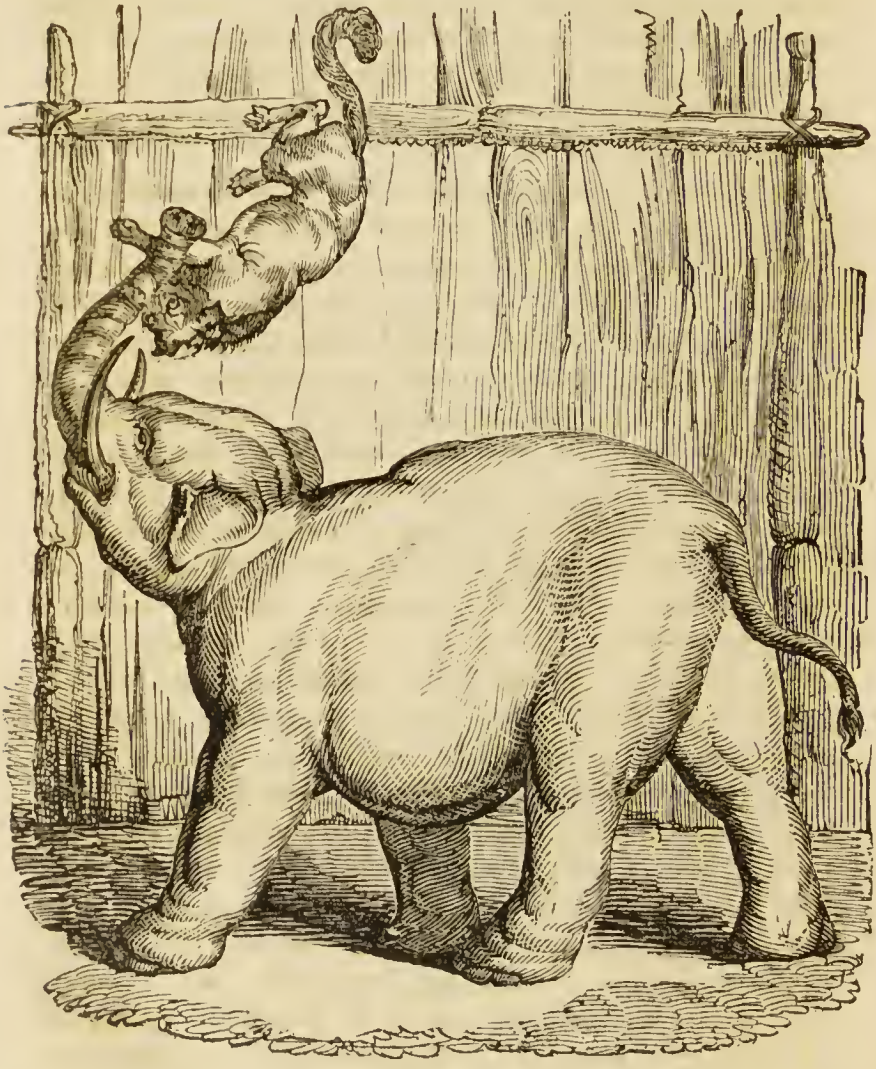


Elephant killing a horse.

see the lions, leopards, tigers, and elephants fight with each other*." These exhibitions were varied in every mode that an ingenious cruelty could devise. "Some elephants," says Covert, "fight with wild horses, six horses to an elephant, which he kills with clasping his trunk about their necks, and, pulling them to him, breaks their necks with his teeth." It is not uncommon to fight elephants with tigers. The accounts of the courage displayed by the elephant on these occasions are somewhat contradictory. At Saigon, in Cochin-China, a combat of this nature was exhibited before Mr. Crawfurd, where the tiger was muzzled and his claws torn out, and yet the first elephant was wounded and put to flight. The tiger was at length killed by successive tosses upon the tusks of his adversaries; and when he was perfectly dead, an elephant seized the carcase with his proboscis, and threw it to a distance of thirty feet. Father Tachard, on the contrary, saw a similar fight at Siam, in which the tiger was wounded and driven away upon the first onset. These differences in conduct doubtless arise, in some degree, from differences in the tempers of the individual animals. At the lion-fight at Warwick, one lion played with the dogs that attacked him, while the other destroyed them in an instant. Different degrees of training may also produce considerable varieties of behaviour in the elephant, when he encounters an enemy. A strange terror is always the most formidable to him. "An English dog seized an elephant by the trunk, and kept his hold so fast, that the elephant, having tossed him in the air for some time, at last swung him off, but did not care to come near him a second time. This being told to the Mogul, enhanced the reputa-

* Albert de Mandelsloe's Travels.

tion of the English dogs; they were carried about in palankines along with his majesty: and he fed them himself with a pair of silver tongs made for that purpose*." Pliny tells us of two remarkable



Elephant baited.

* Barclay, Universal Traveller.

dogs that were given by the king of Albania to Alexander the Great (Strabo says they were Indian dogs), one of which vanquished a lion and afterwards an elephant. According to the naturalist the dog was most alarmed at the largest enemy. His hair stood up, he barked in a fearful manner, but at length rushed at the enormous animal, attacking him on every side, and fairly wearing him out by the rapidity of his assaults. The elephant at length fell exhausted on the ground*.

It is unnecessary to offer any further instances of the depraved taste which excites a generous and docile animal to such encounters; nor shall we discuss whether he possesses a courageous temper, because he often shrinks from contests which are evidently revolting to his nature. The elephant is a peaceful animal; his strength enables him to defend himself against ordinary enemies, but he has no disposition to attack. The reason is evident. He subsists upon vegetable food, and therefore he has neither the desire to destroy life which belongs to the carnivorous animals, nor the means of gratifying such a desire. The cruelty which forces him into such combats is, for this reason, greater than that which excites animals to fight that are naturally pugnacious; but, in either case, the principle of brutality is the same.

It is agreeable to turn from scenes which are hateful to the quadruped, to behold him engaged in peaceful pageants which afford him gratification. Associated with human slaves in administering to the pomp of Asiatic despotism, the elephant is not only reconciled to captivity, but is proud and satisfied. He is pampered and caressed—he has little labour to perform—his chains are gilded. He serves a tyrant, but he does not feel the tyranny; and he is happier than

* Plinii Hist. Nat., lib. viii. c. 40.

the nabob whom he carries, for he has no dread of the power which obeys no law but its own caprice, when it raises to a throne, or degrades to a dungeon *.

In British India the elephant is rarely seen upon occasions of ceremony, except at the courts of those native princes who still possess any independent authority. An adequate idea of the splendour derived from their employment in a procession may be obtained from a brilliant panorama of Calcutta now (1830) exhibiting in London. Their general use at Calcutta, or within five miles of it, is, however, prohibited, on account of the frequent accidents which they occasion by frightening horses †. In the hideous ceremonials of Juggernaut elephants are used. Five elephants precede the car of the idol, "bearing towering flags, dressed in crimson caparisons, and having bells hanging to their caparison ‡." When the two sons of Tippoo were received as hostages by Lord Cornwallis, "they were each mounted on an elephant, richly caparisoned, and seated in a silver howdah §." At Vizier Ally's wedding, in 1795, "the procession was grand beyond conception; it consisted of about twelve hundred elephants, richly caparisoned, drawn up in a regular line, like a regiment of soldiers. About one hundred elephants in the centre had howdahs, or castles covered with silver: in the midst of these appeared the nabob, mounted on an uncom-

* The nabob "was called to court, kept there, or translated into another government whenever the ministry thought these changes necessary; and there was a time when they were so frequent, that a new nabob left Delhi riding, contrary to the usual manner, with his back turned to the head of his elephant, and gave for a reason that he was looking out for his successor."—*Orme's Hindostan.*

† Heber, i. p. 37. ‡ Buchanan.

§ Mill's British India, book vi. chap. 4.

monly large elephant, within a howdah covered with gold, richly set with precious stones*." It was a custom with the Moguls to have their elephants and horses daily paraded before them. Bernier has described this ceremony at the court of Aurengzebe, and Sir Thomas Rowe at that of Jehanghir. "His greatest elephants were brought before him, some of which, being lord elephants, had their chains, bells, and furniture of gold and silver, attended with gilt banners and flags; and eight or ten elephants waiting on him, clothed in gold, silk, and silver. Thus passed about twelve companies, most richly furnished; the first elephant having all the plates on his head and breast set with rubies and emeralds, being a beast of a wonderful stature and beauty. They all bowed down before the king†." Bernier has explained the machinery which produces this reverence of the elephants for their mighty master. "When in front of the throne, the driver, who is seated on his shoulder, pricks him with a pointed iron, animates and speaks to him, until the animal bends one knee, lifts his trunk on high, and roars aloud ‡."

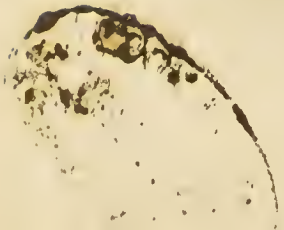
The Emperor of China was not so profuse in his displays of elephant pomp as the princes of India. At Pekin Mr. Bell saw an ingenious contrivance, by which, as often occurs in the processions of the stage, a great effect is produced by very scanty means. "After dinner," he says, "we saw the huge elephants, richly caparisoned in gold and silver stuffs. Each had a driver. We stood about an hour admiring these sagacious animals, who, passing before us at equal distances, returned again behind the stables, and so on, round and round, till there seemed to be

* Annual Biography and Obituary for 1819.
† Purchas. ‡ Travels, i. 298.

no end to the procession. The plot, however, was discovered by the features and dress of the riders: the chief keeper told us there were only sixty of them*." Isbrand Ides, when at the court of China, saw four enormous elephants, with a fine carved wooden castle, spacious enough to hold eight persons, on the back of each. At the grand feast in China, on new year's day, A.D. 1420, the elephants, according to an eastern account of the embassy from Shah Rohk, son of Tamerlane, to the Emperor of China, were adorned with a magnificence not to be expressed, with silver seats and standards, and armed men upon their backs. Fifty of them, says this narrative, carried the musicians; these were preceded or followed by fifty thousand, in profound silence and order. This vast number is either an oriental hyperbole, or the same trick was played upon the Shah's ambassadors as upon Mr. Bell. When a letter from Queen Elizabeth was sent to the King of Sumatra, "the greatest elephant, being thirteen or fourteen feet high, had a small castle like a coach, covered with velvet, on his back, in which was placed a great golden basin, with a rich covering of silk, wherein the letter was laid †." Elephants are used in other idolatrous ceremonials than those of Juggernaut. Knox, describing the great annual festival at the city of Candy, mentions a procession of elephants bearing priests carrying painted sticks and umbrellas.

The elephant, in India, has usually been the minister of despotic justice. The emperor Akbar, says Purchas, "on Tuesday, sits in judgment, and hears both parties with patience. He sometimes sees, with too much delight in blood, the executions done by his elephants." Shah-Jehan terrified the

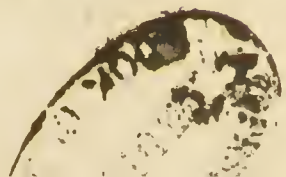
* Bell's Travels, chap. ix. † Purchas.



Portuguese residents at Hoogly, by the daily threat of throwing them under the elephants' feet, unless they would renounce the Christian faith *. Knox, in his account of Ceylon, says, " the king makes use of them for executioners: they will run their teeth through the body, and then tear it in pieces, and throw it limb from limb. They have sharp iron spikes with a socket with three edges, which they put on their teeth at such times; for the elephants that are kept have all the ends of their teeth cut to make them grow the better, and they do grow out again." The custom was kept up at Ceylon till our conquest of that island. Bishop Heber says, " I preached, administered the sacrament, and confirmed twenty-six young people in the audience-hall of the late King of Candy, which now serves as a church. Here, twelve years ago, this man, who was a dreadful tyrant, and lost his throne in consequence of a large party of his subjects applying to General Brownrigge for protection, used, as we were told, to sit in state to see those whom he had condemned trodden to death, and tortured by elephants trained for the purpose." Whatever be the faults of our government in India, it is cheering to know that, through the greatest portion of that vast country, the decrees of an equal law are substituted for the will of tyrants, the best even of whom may be described, in the forcible language of Knox, as one who " sheds a great deal of blood, and gives no reason for it."

" When the king of Siam goes to court," says Tavernier, " he has a train of two hundred elephants, among which, one is white." His Majesty of Siam, who is described in his official titles as " a king who has all emperors, kings, princes, and sovereigns in

* Bernier, vol. i. p. 198.



the whole world, from the rising to the going down of the sun, under subjection," doubtless derives this wonderful power from his elephant possessions. The same titles exhibit him as " a king that hath elephants with four teeth, red, purple, and pied ;—elephants, ay, and a Byytenaques elephant, for which God hath given him many and divers sorts of apparel, wrought with most fine gold, ennobled with many precious stones; and, besides these, so many elephants used in battle, having harnesses of iron, their teeth tipt with steel, and their harnesses laid over with shining brass." But the greatest dignity of this illustrious monarch is that he is " king of the white elephant, which elephant is the king of elephants, before whom many thousands of other elephants must bow and fall upon their knees *." The white elephant, for the possession of which there was perpetual war between the kings of Siam and Pegu, and Aracan, in the sixteenth century—for which five kings lost their lives, and many thousands of their subjects were slaughtered—is an Albino—that is, an animal made white by disease †. White elephants, though extremely rare, were known to the ancients. Horace mentions the white elephant in his Epistles. Democritus would laugh at the populace,

> Whether a beast of mix'd and monstrous birth
> Bids them with gaping admiration gaze,
> Or a white elephant their wonder raise.
>
> FRANCIS.

The commentators explain the passage by stating that it was customary to exhibit to the people a camelopard or a white elephant ‡. Ælian speaks of

* Struys' Travels; quoted in the Notes to Southey's Curse of Kehama.

† See Menageries, vol. i. p. 100.

‡ Epist. lib. ii. ep. i. v. 194, &c.

one, whose mother was black. They are often mentioned in oriental history. Mamood, in the eleventh century, had a white elephant, and, when mounted upon that animal during an engagement, he esteemed it as a certain pledge of victory *. Travellers in the East have constantly observed the white elephants of the princes of India beyond the Ganges. The following account is by the Englishman Fitch:—

"Within the first gate of the palace is a very large court, on both sides of which are the houses for the king's elephants, which are wonderfully large and handsome, and are trained for war and for the king's service. Among the rest, he has four white elephants, which are so great a rarity, no other king having any but he; and were any other king to have any, he would send for it, and if refused would go to war for it, and would rather lose a great part of his kingdom than not have the elephant. When any white elephant is brought to the king, all the merchants in the city are commanded to go and visit him, on which occasion each individual makes a present of half a ducat, which amounts to a good round sum, as there are a vast many merchants, after which present you may go and see them at your pleasure, although they stand in the king's house. Among his titles, the king takes that of king of the white elephants. They do great honour and service to these white elephants, every one of them having a house with gold, and getting their food in vessels of gilt silver. Every day when they go to the river to wash, each goes under a canopy of cloth of gold or silk, carried by six or eight men, and eight or ten men go before each, playing on drums, *shawms*, and other instruments. When each has washed and is come out of

* D'Herbelot.

the river, he has a gentleman to wash his feet in a silver basin, which office is appointed by the king. There is no such account made of the black elephants, be they never so great, and some of them are wonderfully large and handsome, some being nine cubits high."

"Some tell of this white elephant," says Purchas, "(for so they speak as if there were but one, whereas Fitz-Balli and Frederike saw four, but it seems one was of principal estimation,) that it was observed with no less honour than the king, and came not abroad without great pomp. It had been a dismal and disastrous beast to five or six kings." Tachard, who saw at Siam this individual white elephant who had been the occasion of such bloodshed, says that he was small and very old—they said three hundred years. He was attended by a hundred men, who fed him out of vessels of gold, and he lived in a splendid pavilion. This elephant being well stricken in years, the king of Siam had looked out for a successor;—and a young one, which had been presented to him by a neighbouring potentate, was kept at his country palace with the same care and splendour*.

In Major Snodgrass's Narrative of the recent Burmese war, it is stated that the government of the Birman empire was "so completely influenced and guided by signs and omens, that an unusual grunt from the white elephant was at all times sufficient to interrupt the most important affairs, and cause the most solemn engagements to be broken off." The white elephant, in this particular, retained his ancient influence;—but Mr. Crawfurd thinks that the veneration paid to this pampered idol of pride and superstition has been much exaggerated. His account of

* Hist. Gen. des Voyages.

the present condition of the white elephant of Ava is very interesting :—

" Some of the elephants were very noble animals ; but our attention was chiefly attracted by the celebrated white elephant, which was immediately in front of the palace ; it is the only one in the possession of the king of Ava, notwithstanding his titles : whereas his majesty of Siam had six when I was in that country. The Birman white elephant was rather of a cream than a white colour, and by no means so complete an Albino as any one of those shewn to us in Siam. To the best of my recollection, however, it was larger than any of the latter : it had no appearance of disease or debility ; and the keepers assured us that its constitution was equally good with that of any of the common elephants. This animal was taken in 1806, when young, in the forests of Pegu, at a place called Nibban, which is about twelve miles distant from the old city, and was now about twenty-five years old ; it is the only white elephant which has been taken in the Birman dominions for many years, with the exception of a female, caught two years before it, in the forests of Lain. Several of a light tint, but not deserving the name of white, have been taken within the last twenty years.

" I had here an opportunity, as well as in Siam, of ascertaining that the veneration paid to the white elephant has been, in some respects, greatly exaggerated. The white elephant is not an object of worship, but it is considered an indispensable part of the regalia of sovereignty. Royalty is incomplete without it ; and the more there are, the more perfect is the state of the kingly office considered. Both the court and people would consider it as peculiarly inauspicious to want a white elephant ; and hence the repute

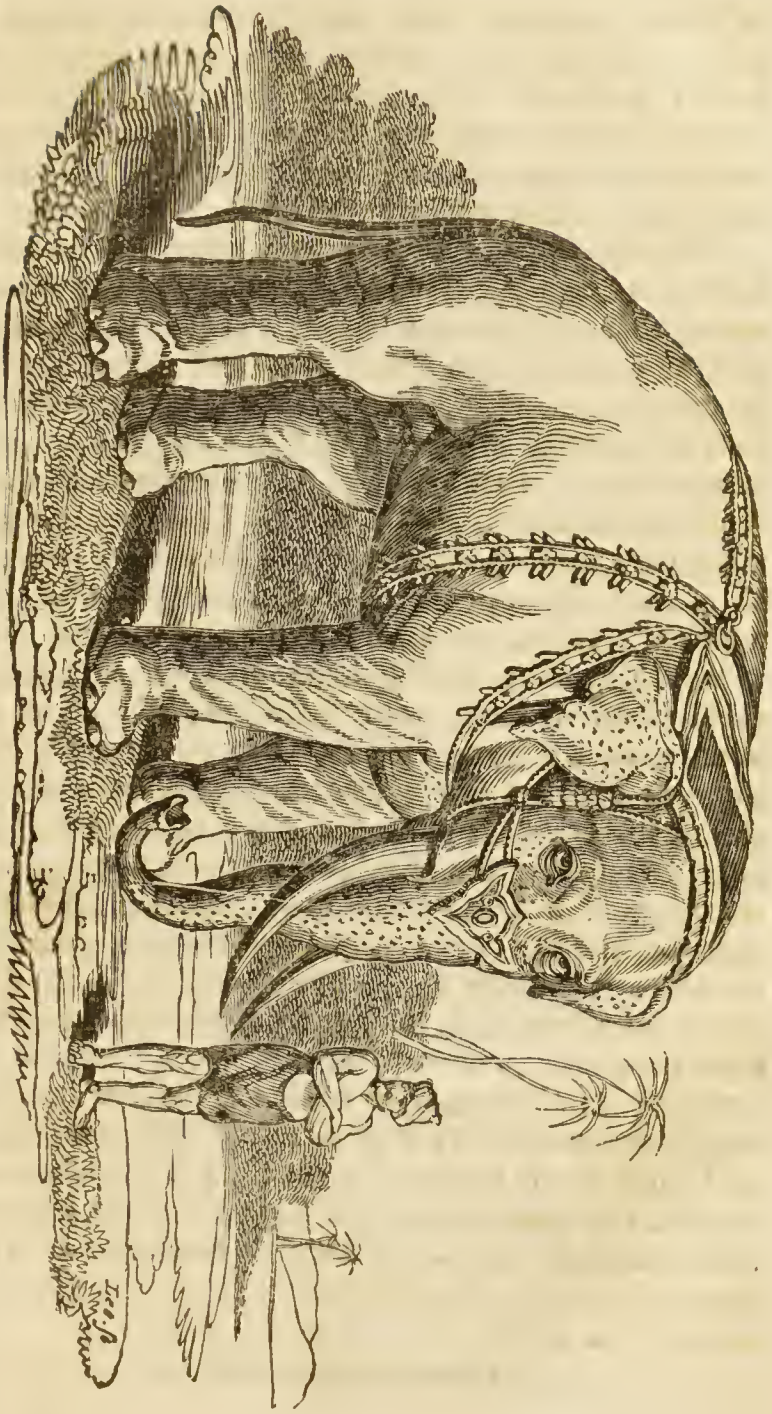
in which they are held, and the anxiety to obtain them: the capture of a white elephant is consequently highly rewarded. The present one was first discovered by four common villagers, each of whom received two thousand five hundred ticals in money, and offices, titles, and estates.

"While we were at Ava, a report was brought that a white elephant had been seen; but it was stated, at the same time, that its capture and transport on a sledge over the cultivated country would be accompanied by the destruction of ten thousand baskets of rice. His majesty is said to have exclaimed more with the enthusiasm of an amateur, than the consideration of a patriot king, 'What signifies the destruction of ten thousand baskets of rice, in comparison with the possession of a white elephant?' and the order was given for the hunt.

"The lower orders, however, it must be observed, perform the *shiko*, or obedience of submission to the white elephant; but the chiefs view this as a vulgar superstition, and do not follow it. When the present elephant was taken, the event was considered a joyous one; and the late king, who was fond of money, taking advantage of the circumstance, issued an order to the tributaries and chiefs, to ask pardon of the white elephant (Ka-dau), accompanied, of course, by the usual presents, which his majesty deposited in his coffers.

"The establishment of the white elephant is very large; he has his Wun, or Minister; his Wun-dauk, or Deputy to that officer; his Saré-gyi, or Secretary, &c., with a considerable endowment of land for his maintenance. In the late reign, Sa-len, one of the finest districts in the kingdom, was the estate of the white elephant *."

* Crawfurd's Embassy to the Court of Ava, p. 142.



White Elephant of Ava.

The veneration which, in the Birman empire, is paid to the white elephant, is in some degree connected with the doctrine of the Metempsychosis. Xaca sustained seventy thousand transmigrations through various animals, and rested in the white elephant*. The general superstitions respecting the quadruped, which, more or less, prevail throughout Asia, have doubtless had some additional influence upon this particular homage. These superstitions have reference to the elephant's great stature and his character for sagacity. The Hindoo mythology teaches that the earth is supported by eight elephants. Bernier witnessed a curious dialogue between an aga at the court of Delhi, and a Pundit Brahmin, in which the latter, with the nauseous flattery that pervades all ranks in India, concluded an harangue with these words: "When, my lord, you place your foot in the stirrup, marching at the head of your cavalry, the earth trembles under your footsteps; the eight elephants, on whose heads it is borne, finding it impossible to support the extraordinary pressure†." In the Ramayuna, one of the most celebrated of the sacred books of the Brahmins, we have a long description of a party of men who, having penetrated into the interior of the earth, had a very satisfactory audience of these eight potentates. "The sixty thousand descended to Patala, and there renewed their digging. There, O chief of men, they saw the elephant of that quarter of the globe, in size resembling a mountain, with distorted eyes, supporting with his head this earth, with its mountains and forests, covered with various countries, and adorned with numerous cities. When, for the sake of rest,

* Kircher; China Illustrated, chap. iv.
† Travels, vol. i. p. 302.

O Kakootstha! the great elephant, through distress, refreshes himself by moving his head, an earthquake is produced. Having respectfully circumambulated this mighty elephant, guardian of the quarter, they, O Rama! fearing him, penetrated into Patala. After they had thus penetrated the east quarter, they opened their way to the south. Here they saw that great elephant Muhapudma, equal to a huge mountain, sustaining the earth with his head. Beholding him, they were filled with surprise; and after the usual circumambulation, the sixty thousand sons of the great Sugura perforated the west quarter. In this these mighty ones saw the elephant Soumanuca, of equal size. Having respectfully saluted him, and inquired respecting his health, these valiant men, digging, arrived at the north. In this quarter, O chief of Ruzhoo! they saw the snow-white elephant Bhudra, supporting this earth with his beautiful body*." The remainder of the passage details the visits to the other four elephants, in a similar strain.

But the sagacity of the elephant, as well as his strength, has formed a prominent part of the fanciful mythology of the Hindoos. Ganesea, the God of Wisdom, is represented in the temples throughout India, with a human body and an elephant's head. It is remarkable that on several ancient medals the head of Socrates is found united with that of an elephant, in connexion also with one and sometimes two other heads. This fact has given rise to some controversy, as such subjects must do, when there is no direct historical evidence to elucidate their obscurity. Some suppose that the medals are emblems of wisdom; others that they are only the signs of money-changers. Chifletius, an antiquarian writer,

* Notes to Southey's Curse of Kehama.

explains the following medal as referring to the trial of Socrates, stating that the other two heads are those of his accusers, Anytus and Melitus; that the elephant's head, and the caduceus in the trunk, denote the strength of his wisdom, and that the legend means "Confidently." The Greek word does not bear this interpretation; and is probably the name

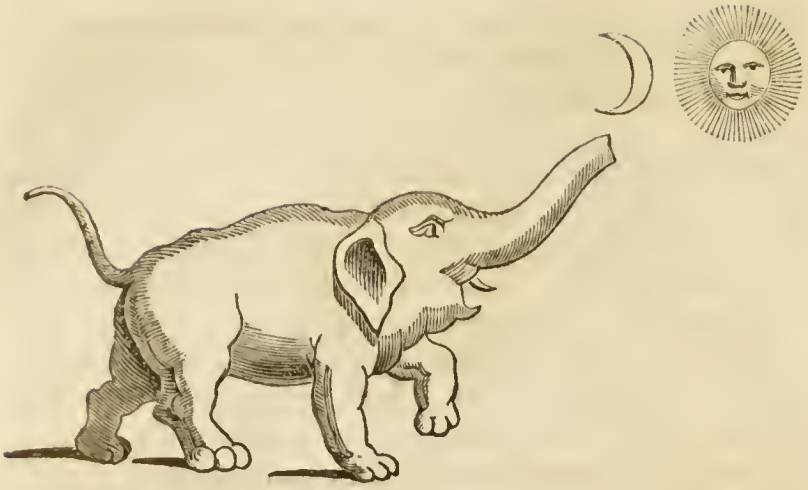
of the artist*. We subjoin a copy of this medal as a mere curiosity, without attempting to solve the disputes regarding its meaning.—The inquiry is probably as worthless as many other antiquarian puz-

* See Cuper de Elephantis, Ex. i. chap. x.

zles, which have occupied scholars in discussions not the most useful to mankind.

The Persians have a festival, according to Chardin, to commemorate the wonderful sagacity, or rather inspiration, of an elephant, when Abraha, a prince of Yemen, marched an army to destroy the Kaaba of Mecca, the sacred oratory which Abraham built in that city. Before the birth of Mohamed the Arabians reckoned from this epoch, which they called the year of the coming of the elephants. Sale's version of this story is amusing. "The Meccans, at the approach of so considerable a host, retired to the neighbouring mountains, being unable to defend their city or temple. But God himself undertook the defence of both. For when Abraha drew near to Mecca, and would have entered it, the elephant on which he rode, which was a very large one, and named Mahmud, refused to advance any nigher to the town, but knelt down whenever they endeavoured to force him that way, though he would rise and march briskly enough if they turned him towards any other quarter; and while matters were in this posture, on a sudden a large flock of birds, like swallows, came flying from the sea-coast, every one of which carried three stones, one in each foot and one in its bill; and these stones they threw down upon the heads of Abraha's men, certainly killing every one they struck*." The notion that the elephant was a religious animal has been very general, not only in the East, but amongst the enlightened nations of antiquity. In Kircher's description of China there is a plate of an elephant worshipping the sun and moon, copied from one of the sacred pictures of the Chinese:—

* Sale's Koran, vol. ii. p. 510.

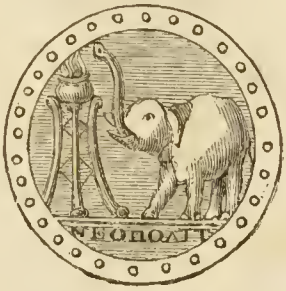


The editor of the French translation of the Natural History of Pliny engages to prove that the name of the elephant, in all languages, signifies child of the sun, or animal consecrated to the sun. The only instances he gives in support of this assertion are, that in the Sclavonic language the animal is called *slon*, the sun being *slonce;* and in some oriental tongues *oriflan*, from which olifante and elephant. The Roman superstition of the religion of the elephant is mentioned by Plutarch, Ælian, and Pliny. We extract the passage from the latter:

" We find in him qualities which are rare enough amongst men—honesty, prudence, equity; religion also, in his worship of the sun and moon. Authors say, that in the forests of Mauritania, the elephants, at the sight of the new moon, descend in troops to a certain river called Anelo, where they solemnly wash themselves, and after having rendered their homage to the star, return to the woods, supporting the young ones that are fatigued*." There is a Neapolitan

* Hist. Nat. lib. viii. cap. 1.

medal, supposed to be antique, representing an elephant standing before the tripod of Apollo, on which the sacrificial fire is burning *.



Cardinal Zabarella caused a coin to be struck, representing the pretended religion of the elephant. All these superstitions have evidently grown out of an exaggerated notion of the animal's sagacity; and they have been spread amongst mankind by that love of the marvellous which always accompanies a very small degree of knowledge.

* See Cuper, Ex. i. cap. ix.

Chapter IX.

EMPLOYMENT OF ELEPHANTS IN THE WARS OF MODERN ASIA.

The horse, the camel, and the elephant, are each intimately connected with the history of mankind. The use of the first is unquestionably the most universal. In every stage of civilization in which the animal has been known, has he been found of the most paramount utility. In peace or in war,—for luxury or for necessity,—with the Arab of the desert or the European of the town,—are his services equally required. He was as necessary to the outfit of armies, when "the light-armed troops" of the Parthian city,

> "flying, behind them shot
> Sharp sleet of arrowy showers against the face
> Of their pursuers, and o'ercame by flight,"*—

as at the last mighty battle that exhibited the fierce and foolish hatred of the most refined nations of the world. The employment of the camel is limited to particular regions, where his strength and his powers of endurance supply the only link by which nations, separated by nature, are enabled to interchange the products which are essential to their common welfare. The elephant of the present day holds an inferior rank in the scale of usefulness to either the horse or the camel. He is valuable, but not indispensable. But there was a long period in the history of the Asiatic nations, and a briefer one in that of the Greeks and Romans, when elephants not only

* Paradise Regained.

administered to the pomp of luxurious courts, and offered the most essential services in the operations of commerce, but were as much an "arm of war" as the artillery of modern Europe, "which is, as it were, in their stead in a day of battle*." The tactics of modern times have necessarily dispensed with the services in the field of an animal that, however powerful in an attack upon dense masses of half-disciplined troops, armed only with the scimetar and the spear, became unmanageable when he was assailed by musketry, and, in his terror of fire-arms, spread destruction equally amongst friends and enemies. We shall trace the elephant through his present partial employment in an Indian army, to the times when he constituted much of the strength of the Moguls; and then proceed to his history in those more remote periods when he was associated with the destinies of the mightiest empires of antiquity.

The elephants of an Anglo-Indian army of the present day are principally used to carry the heavy tents. A camp in Asia is very differently arranged to one in Europe. The quantity of baggage which accompanies even a small number of fighting men is enormous. Every supply that may be required during a campaign is carried with the army. The animals employed in this service are camels, bullocks, and elephants. When it is considered that every officer is attended by a considerable number of servants,—that the camp is followed by dealers in every commodity, who extract large profits out of the necessities or vanities of the Europeans,—and that the retinue of the commander is (or at least was, till very recently) upon the same scale of splendour as that of the native princes—the number of animals required to administer to all these real and artificial wants

* Montaigne, book ii. c. 12.

must be enormous. When the Marquis of Cornwallis took the field, during the war with Tippoo, his followers amounted, it is said, to near half a million *.

Such a train appears, to a certain extent, essential to an Asiatic army. This circumstance will account for the hostile swarms which Xerxes brought into Greece; and, without any disparagement of the valour which triumphed at Thermopylæ, our wonder at the defeat of several millions by a few thousands will be greatly diminished, when we consider that a very large proportion of those millions were just such a cavalcade as followed Aurengzebe on his march from Delhi, and that the thousands were hardy warriors, unincumbered with any useless throngs of servants, and therefore moving to victory with rapidity and compactness. The subject of the mode in which an Asiatic camp is composed, is curious in many points of view;—and we therefore willingly extract a passage, in illustration, from the amusing Memoirs of Lieutenant Shipp:—

"My post of baggage-master being a situation which is, I believe, peculiar to India, it may not be improper to state its duties. He is a staff-officer, and, when not employed in his particular department, is attached to the suite of the commander of the division, as much as the commissary-general, quarter-master-general, or any other staff-officer of the division. On the line of march, he is held entirely responsible that neither men nor baggage precede the column of march, and that they are on their proper flank, which is regulated by the general orders of the day. If the reader recollect what I before stated, that he may safely calculate ten followers in a Bengal army to every fighting man,—and when he is informed that, according to calculations made in

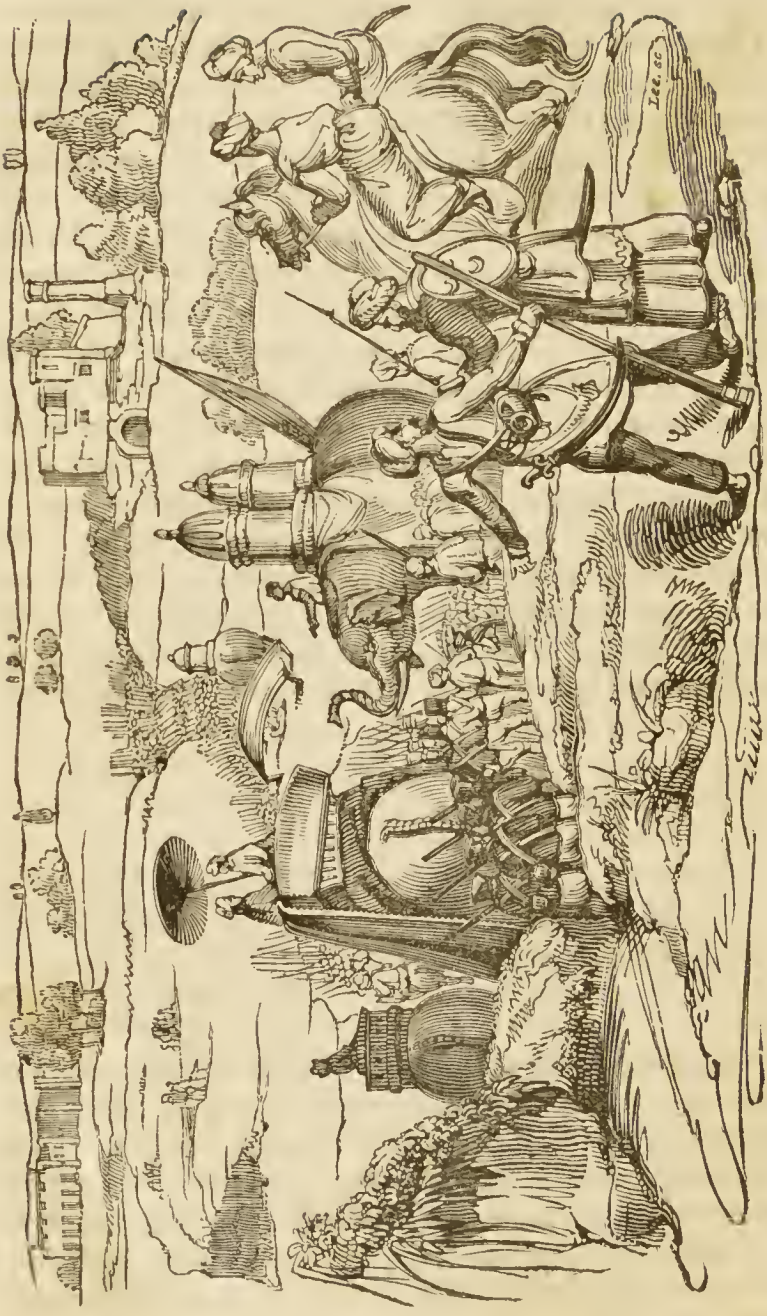
* Tennant's Indian Recreations.

our camp, including the several native contingencies we had with us, our followers were not less in number than eighty thousand, men, women, and children, some thirty thousand following the army for what they could pick up, by fair means or otherwise, my situation cannot be supposed to have been a sinecure. It was truly one of great labour and activity. I had twenty men belonging to a corps of local horse. These men were provided with long whips, and placed at my disposal. To attempt to talk the numberless camp-followers into obedience was quite out of the question; and, therefore, these whips were for the purpose of lashing them into something like discipline. To the great number of human beings I have spoken of must be added fifty elephants, six hundred camels, five thousand bullocks, five thousand horses, one thousand ponies, two hundred goats, two hundred sheep, fifty ruts, one hundred palanquins, one hundred dogs, and one hundred hackeries or carts, presenting the following total:—

Fighting-men	8,000
Camp-followers	80,000
Elephants	50
Camels	600
Bullocks, horses, and tattoos	11,000
Goats, sheep, and dogs	500
Palanquins, hackeries, and ruts	250
	100,400 *"

According to this statement, which is confirmed by other narratives of recent wars in India, fifty elephants are attached to eight thousand fighting men. This is a small number, when compared with the immense train of camels, bullocks and horses; but it is sufficient for the purposes of modern warfare. The elephant, consuming a vast quantity of forage and requiring great care to keep him in good travel-

* Shipp's Memoirs, vol. ii. p. 256-258.



March of an Indian Army. From a Print by Zoffany.

ling condition, is not employed in services where other animals, less expensive to maintain, and of less commercial value, would be equally useful. But there are peculiar circumstances in the march of an Indian army, where the elephant is indispensable. These we shall briefly describe.

The progress of an army through a country intersected with good roads is direct and speedy. In the newly acquired territories of India, remote from European settlements, thick jungles, extensive bogs, and precipitous mountains, offer impediments to an invader, which only the most undaunted perseverance could overcome. In such situations, the power of the elephant is called into action. In a 'Narrative of the late Burmese War,' the writer says, "The road lay partly through a thick jungle; but with the aid of three elephants, a passage was forced." Here the strength which the animal ordinarily employs in a state of nature was called into exercise. The impediment which pioneers could not remove without great labour and consequent delay the three elephants speedily overcame. The high grass was trampled under their feet, the thick bushes yielded to their prodigious weight, the slender trees were broken off at the stems—the path was open for troops to follow.

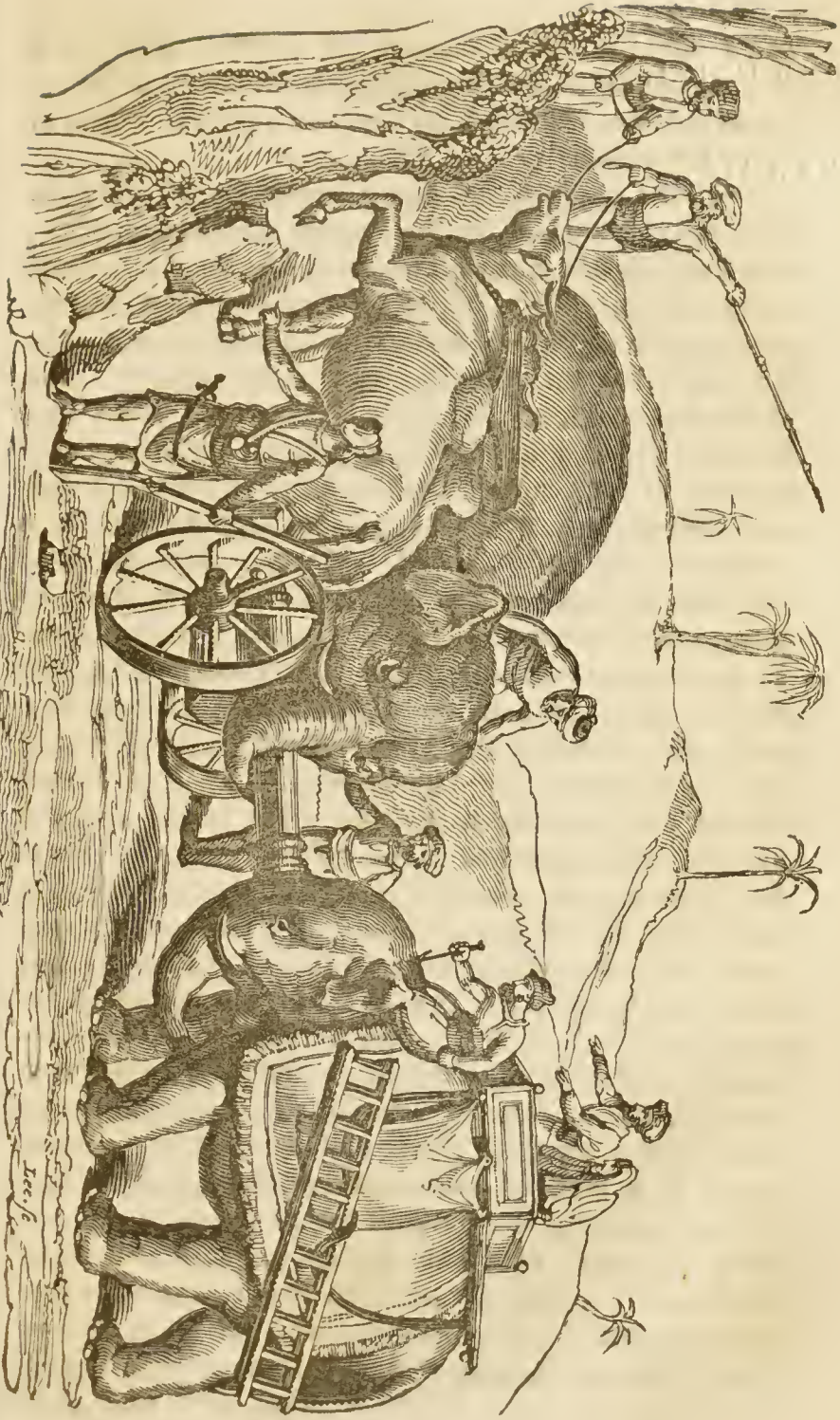
But the best roads are sometimes suddenly broken up by violent rains;—and then they present a succession of deep ravines, with clayey banks, on which bullocks have a very insecure footing. The artillery cannot pass without the aid of the elephant. To every battering-train, a few of these animals are attached. They "always apply their strength in the most efficacious manner, either in pushing forward the guns with their foreheads, or lifting them up with their trunks, when the wheels have sunk into a deep rut or slough *." Captain Williamson has more

* Twelve Years' Military Adventure.

fully described their services in this particular: "Many of our most arduous military operations have been greatly indebted for their success to the sagacity, patience, and exertion of elephants. Exclusive of their utility in carrying baggage and stores, considerable aid is frequently supplied by the judgment they display, bordering very closely on reason. When cannon require to be extricated from sloughs, the elephant, placing his forehead to the muzzle, which when limbered is the rear of the piece, with an energy scarcely to be conceived, will urge it through a bog from which hundreds of oxen or horses could not drag it: at other times, lapping his trunk round the cannon, he will lift while the cattle and men pull forward. The native princes attach an elephant to each cannon, to aid its progress in emergencies. For this purpose the animal is furnished with a thick leather pad, covering the forehead, to prevent its being injured. It has sometimes happened that, in narrow roads or causeways, or on banks, the soil has given way under heavy cannon; when an elephant, being applied to the falling side, has not only prevented the piece from upsetting, but even aided it forward to a state of security*." Elephants have probably been employed in this manner from the first introduction of artillery into Asia. Bernier, describing the army of Aurengzebe, says—"Many of these cannon are so ponderous, that twenty yoke of oxen are necessary to draw them along; and some, when the road is steep or rugged, require the aid of elephants in addition to the oxen, to push the carriage wheels with their heads and trunks†." Heavy guns are often carried on elephants' backs, both in the native and the Indian armies.

The situation in which the perseverance and the caution of the elephant are most displayed in military operations, is that in which he is required to convey

* Oriental Field Sports, p. 43. † Travels, ii. 86.



Elephants conveying Artillery through bad roads.

guns up the steep passes, or ghauts, which are so formidable in the mountainous districts of India. Such a scene will be best described in the words of an eye-witness:—

"There was a small ravine branching off from the bed of a dry river, in which our encampment lay, and its entrance looked like the dreary aeeess to some deep cavern. * * * * We entered this little gaping cavern, leaving the principal part of our force for the protection of our standing tents and baggage. We were equipped as lightly as possible. Two six-pounders were conveyed on elephants, and our march seemed to lie through the bed of this ravine, which was rocky, and watered by a crystal eurrent, that rippled along its flinty bed. We did not proceed at the rate of more than one or two hundred yards an hour, ascending and descending every twenty paces; at one time, deep sunk in some dark excavation, and shortly afterwards perched upon the summit of a rock, the falling of the numerous cataraets drowning the noise made by our approach. * * * * Our march now became more and more tardy, and the ascents and descents more diffieult and intricate. In some places, rocks of gigantie size hung some hundred feet overhead. These sudden and tremendous hills and dales indicated that we could not have far to go; for the last hill was scareely accessible. * * * * We halted a eonsiderable time,—till broad day-light, when we could see, from where I stood, the soldiers in advance of us ascending by means of projecting rocks and boughs. We were halted in a kind of basin, surrounded by high hills. In the course of a couple of hours the whole of the 87th regiment, with our gallant general and suite, ascended this difficult ghaut. From this eminence we eould see a great distance; and on every hill we could discern signals, which were communicated from post to post. * * * * What will not good

examples effect on the minds of soldiers? Our general walked every yard of this critical march, encouraging his men. These well-timed examples will accomplish wonders. The question now was, how to get the guns up, and the powder and shot; but those who are accustomed to wars in India are not often at a loss for expedients. Having got all the men up, except the rear-guard, the pioneers went to work with their pickaxes, some making a road, and others felling trees. As we were but two regiments, the general's primary object was to place our little force to the best advantage. This accomplished, the guns were our next object. Having cut a good deal of the most prominent part of the hill away, and lain trees on the ascent, as a footing for the elephants, these animals were made to approach it, which the first did with some reluctance and fear. He looked up, shook his head, and, when forced by his driver, roared piteously. There can be no question, in my opinion, that this sagacious animal was competent instinctively to judge of the practicability of the artificial flight of steps thus constructed; for the moment some little alteration had been made, he seemed willing to approach. He then commenced his examination and scrutiny, by pressing with his trunk the trees that had been thrown across; and after this he put his fore-leg on, with great caution, raising the fore-part of his body so as to throw its weight on the tree. This done, he seemed satisfied as to its stability. The next step for him to ascend by was a projecting rock, which we could not remove. Here the same sagacious examinations took place, the elephant keeping his flat side close to the side of the bank, and leaning against it. The next step was against a tree; but this, on the first pressure of his trunk, he did not like. Here his driver made use of the most endearing epithets, such as, 'Wonderful,

my life,'—'Well done, my dear,'—'My dove,'—'My son,'—'My wife;'—but all these endearing appellations, of which elephants are so fond, would not induce him to try again. Force was at length resorted to, and the elephant roared terrifically, but would not move. Something was then removed; he seemed satisfied, as before; and he in time ascended that stupendous ghaut. On his reaching the top, his delight was visible in a most eminent degree; he caressed his keepers, and threw the dirt about in a most playful manner. Another elephant, a much younger animal, was now to follow. He had watched the ascent of the other with the most intense interest, making motions all the while, as though he was assisting him by shouldering him up the acclivity;—such gestures as I have seen some men make when spectators of gymnastic exercises. When he saw his comrade up, he evinced his pleasure by giving a salute something like the sound of a trumpet. When called upon to take his turn, however, he seemed much alarmed, and would not act at all without force. When he was two steps up, he slipped, but recovered himself by digging his toes in the earth. With the exception of this little accident he ascended exceedingly well. When this elephant was near the top, the other, who had already performed his task, extended his trunk to the assistance of his brother in distress, round which the younger animal entwined his, and thus reached the summit of the ghaut in safety. Having both accomplished their task, their greeting was as cordial as if they had been long separated from each other, and had just escaped from some perilous achievement. They mutually embraced each other, and stood face to face for a considerable time, as if whispering congratulations. Their driver then made them salam to the general, who ordered them five rupees each for sweetmeats.

On this reward of their merit being ordered, they immediately returned thanks by another salam*.

In the British armies in India the elephant is not brought into the field of battle; but by a few of the Native Powers, the farthest removed from European influences, he is still used as an "arm of war." The historian of the Burmese War says, "The garrison (Burmans) sallied in considerable force, infantry and cavalry, with seventeen war elephants, fully caparisoned, and carrying a proportion of armed men. This attack was, as usual, directed upon our right; and while the flotilla came up in full sail, under all the fire of the fort, the cavalry, covered by the horse-artillery, was ordered to charge the advancing monsters: the scene was novel and interesting; and although neither the elephants nor their riders can ever be very formidable in modern warfare, they stood the charge with a steadiness and courage these animals can be rarely brought to shew. Their riders were mostly shot; and no sooner did the elephants feel themselves unrestrained by the hand of their drivers, than they walked back to the fort with the greatest composure†."

In the narratives of the wars of the last half century, between the British in India and the Native chiefs, we find very rare mention of elephants in battle. The rapid movements of European troops—the precision of their fire, and the fury of their charge—had taught the princes of India not to trust to a force which was better adapted to those contests amongst themselves, when elephant was opposed to elephant, and their riders fought with javelins and swords, like the knights of the ancient tournament. But in the war of Coromandel, about eighty years ago, when the British power in India, fighting its way

* Shipp's Memoirs, vol. ii. p. 64 to 72.

† Narrative of the Burmese War, p. 170.

from small beginnings to the possession of empire, had to contend against many of the native chiefs equipped for war in the same style as the old Mogul emperors, elephants were frequently encountered in battle. The Nabob of Arcot, and his rival Chunda-saheb, were each mounted on elephants, in the fight which appeared to secure the Carnatic to the influence of France. The Nabob, "on an elephant, was surrounded, according to the Indian military array, by the chosen cavalry of his army. * * * * He perceived the elephant of Chunda-saheb, and knew the ensigns of his rival. More than one passion was now excited; and the Nabob, furious by the sight of the author of this calamitous day, ordered the conductor of his elephant, with the promise of a great reward, to push directly against the elephant of Chunda-saheb. A part of the French battalion was in the way: they fired; a shot from the musket of a Caffre went through the Nabob's heart, and he fell from his elephant dead on the plain*." Nazir-jing, a son of the Mogul, entered the Carnatic, after this event, with three hundred thousand men, eight hundred pieces of cannon, and thirteen hundred elephants†. He was himself shot upon his elephant by a fusileer who rode upon the same elephant as his enemy the Nabob of Cudapa ‡. The Nabob of Cudapa perished in the great battle with Murzafa-jing, the Soubah of the Carnatic, and that prince also fell on the same day, in close contest with one of his rivals. "Murzafa-jing came up with the Nabob of Canoul, who, finding he could not escape, turned with the handful of troops which surrounded him, and pushed on towards the elephant of his enemy. Exasperated by this defiance, the young prince made a sign to his troops to leave the person of the Nabob to be attacked by himself. The

* Orme, vol. i. p. 132. † Ib. p. 142. ‡ Ib. p. 160.

two elephants were driven up close to each other, and Murzafa-jing, had his sword uplifted to strike, when his antagonist thrust his javelin, which pierced his forehead with so much force that the point entered the brain; he fell back dead. A thousand arms were aimed at the Nabob, who was, in the same instant, mortally wounded*."

The introduction of fire-arms into the East rendered the ancient position in battle of the princes of India, seated upon their lofty elephants, one of great and peculiar danger. In such a situation they were exposed much more than their officers, who were mounted on horses, to the fire of the infantry, which effected a surer destruction than the random arrows of the archers: but the danger of quitting their proud elevation was even greater than that of retaining it. The elephant's back was the seat of honour and of power;—the throne from which they arranged the movements of their adherents, and directed the tide of battle, surrounded by the most faithful of their slaves. To quit the elephant was to spread amongst their followers the belief that they had perished; and this belief was destruction: for, according to an almost invariable custom in Hindostan, when the chief falls the rout becomes general. In the battle which gave Aurengzebe the victory over his brother Dara, he commanded, while his troops were slaughtered around him with scarcely a hope of escape, that chains should be fastened to his elephant's leg, that he might sit amongst his few remaining followers, unable to retreat, if he even had the inclination†. The politic prince knew the temper of an Asiatic army. The amari of the elephant was his throne, and while the throne remained filled he could command obedience. The unhappy Dara was betrayed into a neglect of this principle; and he

* Orme, vol. i. p. 168. † Bernier.

lost the empire. Bernier has told the story with his usual fidelity and spirit:—

"Calil-ullah had sufferered some indignity at the hands of Dara, and he considered the hour arrived when he might gratify the resentment which had never ceased to rankle in his bosom. His abstinence from all share in the battle did not, however, produce the mischief intended, Dara having proved victorious without the co-operation of the right wing. The traitor, therefore, had recourse to another expedient. He quitted his division, followed by a few persons, and riding with speed towards Dara, precisely at the moment when that prince was hastening to assist in the downfall of Morud-Bakche, he exclaimed, while yet at some distance, 'Mohbarek bad! Hazaret! Salamet! Elhamd-ul-ellah! May you be happy! May your majesty enjoy health and reign in safety! The victory is your own! But, let me ask, why are you still mounted on this lofty elephant? Have you not been sufficiently exposed to danger? If one of the numberless arrows or balls, which have pierced your canopy, had touched your person, who can imagine the dreadful situation to which we should be reduced? In heaven's name, descend quickly, and mount your horse; nothing now remains but to pursue the fugitives with vigour. I entreat your majesty, permit them not to escape.'

"Had Dara considered the consequences of quitting the back of his elephant, on which he had displayed so much valour, and served as a rallying point to the army, he would have become master of the empire; but the credulous prince, duped by the artful obsequiousness of Calil-ullah, listened to his advice as though it had been sincere. He descended from the elephant, and mounted his horse; but a quarter of an hour had not elapsed, when, suspecting the imposture, he inquired impatiently for Calil-

ullah. The villain was not, however, within his reach; he inveighed vehemently against that officer, and threatened him with death; but Dara's rage was now impotent, and his menace incapable of being executed. The troops having missed their prince, a rumour quickly spread that he was killed, and the army betrayed; an universal panic seized them; every man thought only of his own safety, and how to escape from the resentment of Aurengzebe. In a few minutes the army seemed disbanded, and (strange and sudden reverse!) the conqueror became the vanquished. Aurengzebe remained for a quarter of an hour steadily on his elephant, and was rewarded with the crown of Hindostan: Dara left his own elephant a few minutes too soon, and was hurled from the pinnacle of glory to be numbered among the most miserable of princes*."

Sultan Sujah, the younger brother of Dara, lost the empire precisely in the like manner; and Aurengzebe, though surrounded with extraordinary difficulties, won it a second time in the same way, by the influence of his better fortune or judgment. "An arrow killed the man who guided Aurengzebe's elephant; the animal became unmanageable, and the danger growing more appalling, the king was about to dismount, when Emir Jemla, who was near him, prevented him from accomplishing his fatal purpose †." It is probable that the extreme hazard of his exposed position drove Dara from the back of his elephant, as much as the advice of his perfidious counsellor. "A cannon-ball having killed his foster brother, who sat with him on the elephant, he was almost blinded with the blood. A rocket at the same time, passing by his ear, singed his turban; a second followed, and having struck in the front of the amari, burst, and broke it all to pieces. His colour

* Bernier, vol. i. pp. 62, 63. † Bernier.

was seen then to change*." The danger, indeed, of employing elephants in battle, after the use of artillery and rockets was common in India, must have been extreme. Tavernier says, that Aurengzebe was compelled to raise the siege of Daman, because the garrison, in a sally which was headed by a French engineer, had the prudence to attack the elephants of the besiegers with fire-works; and that these, turning upon their masters with ungovernable fury, scattered general destruction through their camp.

In earlier periods of the Mogul empire, elephants were armed for battle with preparations somewhat similar to the defences of warriors in the ages of chivalry. Dow, describing the elephants of Akbar, says, "they wear plates of iron upon their foreheads." Vincent le Blanc † mentions the elephants of the king of Ternassery as "of the largest size of the East, covered to the ground with beeves' hides, and, over them, with divers trappings. Those hides are fastened underneath the belly with iron chains, and are difficult to be got off." The Ayeen Akbery is more minute. "Five plates of iron, each one cubit long and four fingers broad, are joined together by rings, and fastened round the ears of the elephant by four chains, each an ell in length; and betwixt these another chain passes over the head and is fastened in the *kellaweh;* and across it are four iron spikes with *katasses* and iron knobs. There are other chains with iron spikes and knobs hung under the throat and over the breast, and others fastened to the trunk; these are for ornament and to frighten horses. *Pakher* is a kind of steel armour that covers the body of the elephant: there are other pieces of it for the head and proboscis. *Gejjhemp* is a covering made of three folds, and is laid over the *pakher*." Dow adds, that "a sword is bound to

* Dow's Hindostan.

† An Eastern traveller, quoted in Ranking's 'Wars and Sports.'

their trunk, and daggers are fastened to their tusks." But the mighty power of the animal, in crushing the ranks of an enemy, was principally relied upon. The armour and the swords were to add to the dismay which an immense troop of elephants were of themselves calculated to produce. The emperor Akbar well knew their power in scattering masses of terrified men. On one occasion when he stormed the fort of Chitar, the garrison retired to the temples. "Akbar, perceiving he must lose a great number of his troops in case of a close attack, ordered a distant fire to be kept up upon the desperate Rajaputs, till he had introduced three hundred elephants of war, which he immediately ordered to advance to tread them to death. The scene became now too shocking to be described. Brave men, rendered more valiant by despair, crowded around the elephants, seized them even by the tusks, and inflicted upon them unavailing wounds. The terrible animals trode the Indians like grasshoppers under their feet, or winding them in their powerful trunks, tossed them aloft into the air, or dashed them against the walls and pavements. Of the garrison, which consisted of eight thousand soldiers and of forty thousand inhabitants, thirty thousand were slain, and most of the rest taken prisoners*." In the rapid marches of this victorious prince, the elephants suffered greatly. Purchas, speaking of his progress from Kashmire, in 1597, says, "This country he left when summer was past, and returned to Lahore, losing many elephants and horses in the way, both by famine, then oppressing the country, and the difficulty of the passages; the elephants sometimes, in the ascent of hills, helping themselves with their trunks, leaning and staying themselves, being burthened, thereon, as on a staff†."

The power of the elephant in battle has fallen before

* Dow, vol. ii. p. 258. † Book v. chap. vii.

the greater power of artillery and of scientific tactics. But it is little more than three centuries ago that the chief in India who possessed the greatest force of elephants was almost sure of victory. The Emperor Baber, in his Memoirs, gives a remarkable illustration of the terror which the animal produced. "The troops who accompanied Alim Khan were dispersed, being busy plundering and pillaging. Sultan Ibrâhim's troops perceived that the enemy were not in great force, and immediately moved forward from the station which they had kept, though very few in number, and having only a single elephant; but no sooner had the elephant come up, than Alim Khan's men took to flight, without attempting to keep their ground *." Baber himself scarcely employed elephants in war, although descended from Timour, to whom their use was familiar; but he appears to have met their terror with a bold front. His expressions remind us of the quaint language of Bunyan: "I placed my foot in the stirrup of resolution, and my hand on the reins of confidence in God, and marched against Sultan Ibrâhim, the son of Sultan Iskander, the son of Sultan Behlûl Lodi Afghan, in whose possession the throne of Delhi and the dominions of Hindustan at that time were; whose army in the field was said to amount to a hundred thousand men, and who, including those of his Amîrs, had nearly a thousand elephants †."

The courage and perseverance which hesitated not to encounter real and imaginary dangers, placed Baber upon the throne of Delhi. The same qualities added the peninsula of India to the mighty empire of Timour or Tamerlane. This daring and ambitious adventurer, who, having seized upon the sceptre which Genghis Khan had wielded, had advanced with hasty strides to universal dominion, by the successive conquests of Persia, of Turkistan, of

* Memoirs, p. 296. † Memoirs, p. 300.

Siberia, and of Russia, proposed to his armies the invasion of India. It was a land of terrors; and he was answered by murmurs of "We may subdue Hind, yet it hath many ramparts, rivers, wildernesses, and forests; soldiers clad in armour! and the elephants, destroyers of men*!" But the soldier who had invaded the inclement North "with such mighty powers, that thirteen miles were measured from his right to his left wing†," was not to be deterred by unknown evils. He crossed the Indus, penetrated the desert on the edge of which Alexander halted and wept, and in six weeks he was near to Delhi. Nine thousand of the Indian troops came in his way, with twenty-seven elephants. He encountered them, and they fled. In the train of the conqueror were a hundred thousand Hindoo prisoners. When they saw the elephants they rejoiced in the hope of the invader's defeat. The fierce soldier rewarded their patriotic exultation by an order for a general massacre; and in one day they all perished!

The army of Timour still shrunk from an encounter with the strange terror of the elephants. When he placed his troops in the plain before Delhi, it was necessary to allay their fears by extraordinary precautions. He surrounded the camp with an enormous ditch and a rampart of bucklers; and buffaloes were tied together, round the rampart, by the neck and feet, with brambles upon their heads, to be set on fire when the elephants approached. The sultan Mamood sallied forth from his castle to give the invader battle (A. D. 1399). His force consisted of ten thousand horse, forty thousand foot, and elephants armed with cuirasses, and poisoned daggers upon their tusks. In the wooden towers upon their backs, in the form of bastions, were cross-

* Timour's 'Institutes,' translated by W. Davy, and published by Dr. White, 1780.

† Gibbon.

bowmen and archers, who could fight under cover. On the side of the elephants were flingers of fire and melted pitch, and rockets shod with iron. Such is the description of Sherefeddin, who composed, in Persian, the history of Timour, from his original journals. The dread of this array in the army of the invader was extreme. The soldiers, says the historian, feared the elephants might fling them into the air; the learned doctors wished to be placed near where the ladies were. Neither bravery nor knowledge could give confidence in that hour of alarm. Upon the elephants' backs were carried kettle-drums of brass; and these, united to the din of cymbals and bells and trumpets, dismayed even the most dauntless. Timour fell upon the earth in prayer: he that a month before had murdered a hundred thousand captives in cold blood, besought God to give him the victory. The conqueror prayed in the same spirit of fanaticism with which, five years after, he made a declaration to his emirs in these remarkable words: "As my vast conquests have caused the destruction of a great number of God's creatures, I have resolved to atone for the crimes of my past life, by exterminating the infidels of China!" In the battle of Delhi the fortune of the Mongol did not forsake him. The elephants of the Sultan threw his own left wing into disorder; the right was repulsed; and Timour himself led his troops against the centre. The elephants fled before the sabres of his horsemen. The expert swordsmen aimed at the trunks of the terrified animals, and many of them were strewed over the field with the slain. The alarm which the supposed invincibility of the elephants had produced was dissipated for ever. Timour's grandson, only fifteen years of age, wounded an elephant; the men upon his back were overthrown; and the boy drove the animal before him into his

grandfather's camp. The next day the invader sat on the throne of the Indian monarch, and received the homages of his new subjects. Twelve rhinoceroses and a hundred and twenty elephants were paraded before him; and the well-trained flatterers of despotism, certainly not possessing the discrimination which Cassiodorus assigns to the species, that they honour good princes, tyrants never, placed themselves in a humble posture, and made a cry as if demanding quarter. They were more fortunate in their intreaties for mercy than the wretched inhabitants of the city. The elephants were transmitted as presents to the Persian provinces: the people were plundered by the soldiery and massacred at their pleasure; while the Emirs thought it a pious duty to "send to the abyss of hell the souls of these infidels *."

Although Timour had resisted the terror of the elephants, he was not unwilling to avail himself of this instrument of war, to spread alarm amongst those to whom it was a new danger, as a few months before it had been to him. In his letter to Bajazet, written after his conquest of India, he says, metaphorically, "Thou art no more than a pismire, why wilt thou seek to provoke the elephants? Alas! they will trample thee under their feet †." In less than two years the conqueror of Hindostan was in Syria. In the battle before Aleppo, the main body of his army was covered with a rank of elephants, to serve as a rampart. Their towers were filled with archers and flingers of Greek fire. The triumph of the elephants in this fight was a signal contrast to their defeat at Delhi. They coiled up their trunks like serpents, to avoid the sabres of the Mamelukes; they rushed upon the main body of the Syrians, trampling them under their feet, and throwing their bodies on high with their trunks ‡. In the battle of

* Sherefeddin. † Gibbon, chap. lxv. ‡ Sherefeddin.

Angora, which decided the fate of Bajazet, "the conqueror of Hindostan ostentationsly shewed a line of elephants, the trophies, rather than the instruments of victory *."

In the adoption of elephants as instruments of war, after he had triumphed over their strength when employed in the ranks of his enemies, Timour only followed the examples of Kublai Khan and Alexander. The elephant was unknown in the armies of the Grand Khan till he had taken two hundred in a great victory; nor had the animal been employed in China, and the other provinces of the Mogul empire, as a beast of burthen. Mareo Polo's description of the battle in which Kublai Khan first conquered the elephants, affords some curious illustrations of the ancient Indian mode of employing the quadruped in war:—

"It happened that in the year 1272 †, the Grand Khan sent an army into the countries of Vochang and Karazan for their protection and defence against any attack that foreigners might attempt to make. * * * * When the King of Mien ‡ and Bangala in India, who was powerful in the number of his subjects, in extent of territory, and in wealth, heard that an army of Tartars had arrived at Vochang, he took the resolution of advancing immediately to attack it, in order that by its destruction the Grand Khan should be deterred from again attempting to station a force upon the borders of his dominions. For this purpose he assembled a very large army, including a multitude of elephants, (an animal with which his country abounds,) upon whose backs were placed battlements or castles, of wood, capable of containing to the number of from twelve to sixteen in each. With these, and a numerous army of horse and foot, he took the road to Vochang, where the Grand

* Gibbon, chap. lxv.

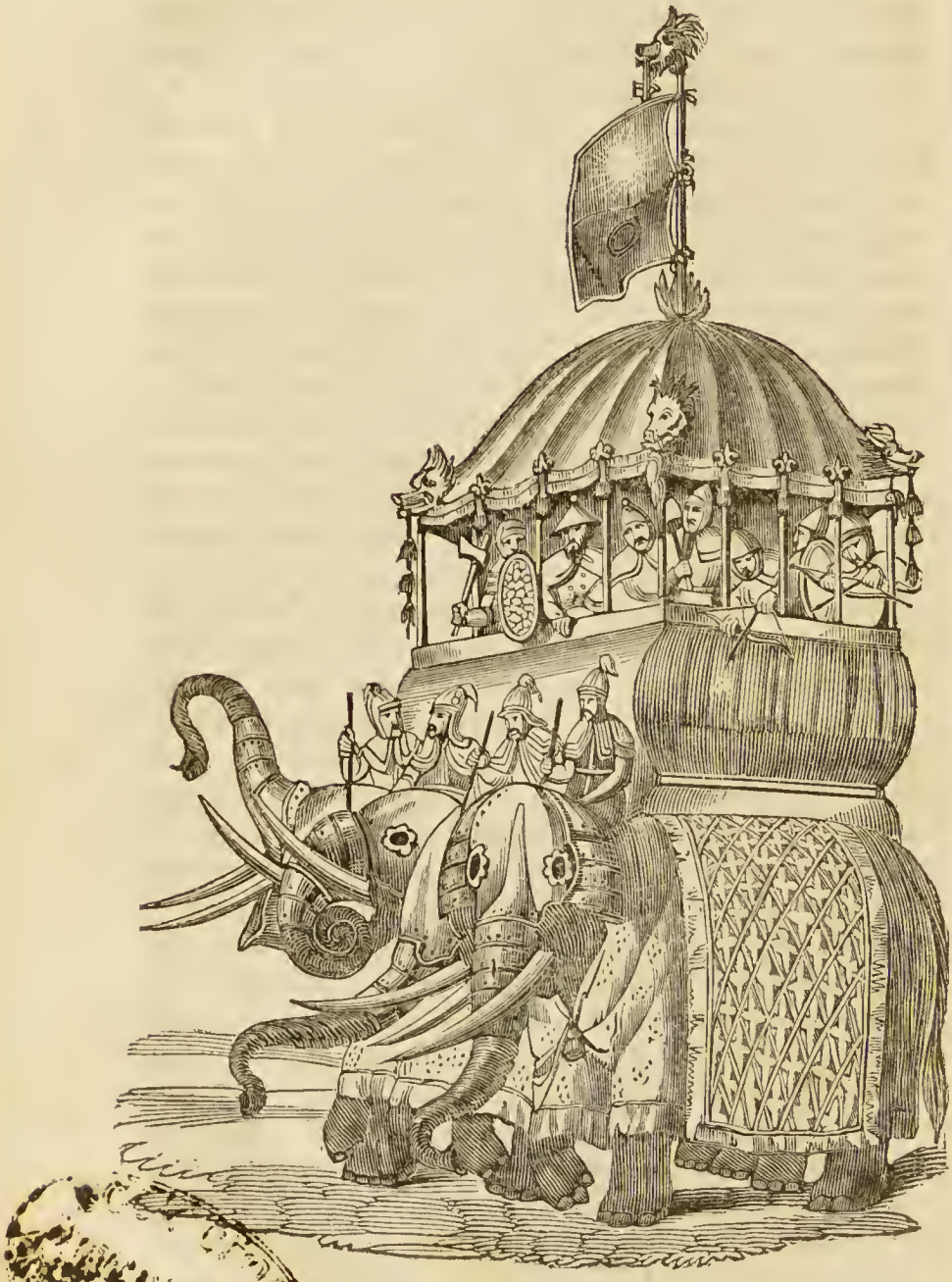
† This date is 1282, according to some authorities. ‡ Ava.

Khan's army lay; and, encamping at no great distance from it, intended to give his troops a few days of rest. As soon as the approach of the King of Mien with so great a force was known to Nestardin, who commanded the troops of the Great Khan, although a brave and able officer, he felt much alarmed, he not having under his orders more than twelve thousand men (veterans, indeed, and valiant soldiers); whereas, the enemy had sixty thousand, besides the elephants, armed as has been described. He did not, however, betray any signs of apprehension, but descending into the plain of Vochang, took a position in which his flank was covered by a thick wood of large trees, whither, in case of a furious charge by the elephants, which his troops might not be able to sustain, they could retire, and from thence, in security, annoy them with their arrows. * * * * Upon the King of Mien's learning that the Tartars had descended into the plain, he immediately put his army in motion, took up his ground at the distance of about a mile from the enemy, and made a disposition of his force, placing the elephants in the front, and the cavalry and infantry in two extended wings in their rear, but leaving between them a considerable interval. Here he took his own station, and proceeded to animate his men and encouraging them to fight valiantly, assuring them of victory, as well from the superiority of their numbers, being four to one, as from their formidable body of armed elephants, whose shock the enemy, who had never before been engaged with such combatants, could by no means resist. Then, giving orders for sounding a prodigious number of warlike instruments, he advanced boldly with his whole army towards that of the Tartars; which remained firm, making no movement, but suffering them to approach their entrenchments. They then rushed out with great spirit and

the utmost eagerness to engage; but it was soon found that the Tartar horses, unused to the sight of such huge animals, with their castles, were terrified, and wheeling about endeavoured to fly, nor could their riders by any exertions restrain them, whilst the King, with the whole of his forces, was every moment gaining ground. As soon as the prudent commander perceived this unexpected disorder, without losing his presence of mind, he instantly adopted the measure of ordering his men to dismount, and their horses to be taken into the wood, where they were fastened to the trees. Being dismounted, the men, without loss of time, advanced on foot towards the line of elephants, and commenced a brisk discharge of arrows; whilst, on the other side, those who were stationed in the castles, and the rest of the King's army, shot vollies in return, with great activity; but their arrows did not make the same impression as those of the Tartars, whose bows were drawn with a stronger arm. So incessant were the discharges of the latter, and all their weapons (according to the instructions of their commander) being directed against the elephants, these were soon covered with arrows, and suddenly giving way, fell back upon their own people in the rear, who were thereby thrown into confusion. It soon became impossible for their drivers to manage them, either by force or address. Smarting under the pain of their wounds, and terrified by the shouting of the assailants, they were no longer governable, but, without guidance or control, ran about in all directions, until, at length, impelled by rage and fear, they rushed into a part of the wood not occupied by the Tartars. The consequence of this was, that, from the closeness of the branches of large trees, they broke, with loud crashes, the battlements or castles that were upon their backs, and involved in the destruction those who sat upon them. Upon

seeing the route of the elephants the Tartars acquired fresh courage, and filing off by detachments, with perfect order and regularity, they remounted their horses, and joined their several divisions, when a sanguinary and dreadful combat was renewed. * * *

" The losses in this battle, which lasted from the morning till noon, were severely felt on both sides; but the Tartars were finally victorious: a result that was materially to be attributed to the troops of the king of Mien and Bangala not wearing armour as the Tartars did, and to their elephants, especially those of the foremost line, being equally without that kind of defence, which, by enabling them to sustain the first discharge of the enemy's arrows, would have allowed them to break his ranks and throw him into disorder. A point, perhaps, of still greater importance is, that the King ought not to have made his attack on the Tartars in a position where their flank was supported by a wood, but should have endeavoured to draw them into the open country, where they could not have resisted the first impetuous onset of the armed elephants, and where, by extending the cavalry of his two wings, he might have surrounded them. The Tartars having collected their force after the slaughter of the enemy, returned towards the wood into which the elephants had fled for shelter, in order to take possession of them, where they found that the men who had escaped from the overthrow were employed in cutting down trees and barricading the passages, with the intent of defending themselves. But their ramparts were soon demolished by the Tartars, who slew many of them; and with the assistance of the persons accustomed to the management of the elephants, they possessed themselves of these to the number of two hundred or more. From the period of this battle the Grand Khan has always chosen to employ



Kublai Khan in his wooden castle. From a plate in Ranking's Wars and Sports.

elephants in his armies, which before that time he had not done. The consequences of the victory were, that his majesty acquired possession of the whole of the kingdom of Bangala and Mien, and annexed them to his dominions *."

In a few years after this decisive battle Kublai Khan was in arms against his relation Nayan, who had rebelled against his authority. In the battle which decided the fate of the unhappy rebel, who was taken prisoner and smothered between two carpets, the magnificent despot "took his station in a large wooden castle, borne on the backs of four elephants, whose bodies were protected with coverings of thick leather, hardened by fire, over which were housings of cloth of gold. The castle contained many cross-bow-men and archers, and on the top of it was hoisted the imperial standard, adorned with representations of the sun and moon †."

Mamood of Ghizni, in his repeated invasions of Hindostan in the eleventh century, constantly employed elephants in war. His forces (A. D. 1024) consisted of fifty-five thousand horse, thirteen hundred elephants and a hundred thousand infantry ‡. In his war against the King of Kaslegar he is thus picturesquely described in battle:—

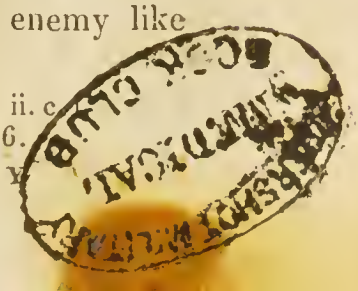
"Mamood, perceiving the enemy's progress, leaped from his horse, and, kissing the ground, invoked the aid of the Almighty. He instantly mounted an elephant of war, encouraged his troops, and made a violent assault upon Elieh. The elephant, seizing the standard-bearer of the enemy, folded round him his trunk, and tossed him aloft into the sky. He then pressed forward like a mountain removed from its place by an earthquake, and trod the enemy like locusts under his feet §."

* Marcó Polo, p. 441, &c.

† Ib. book ii. c.

‡ Dow, i. 65.

§ Ib. i. 46.



When Mamood invested Callinger, the Raja of that city sued for peace, and offered him three thousand elephants and other presents. The Indian prince probably considered that his enemy might be unacquainted with the habits of the animal; and he therefore ventured upon an experiment not very likely to conciliate the rough hero of Turquestan. "The King (Mamood) "agreed to the terms proposed, and the Raja, to try the bravery of the Sultan's troops, intoxicated the elephants with certain drugs, and let them loose without riders in the camp. Mamood seeing the animals advancing, perceived the trick, by the wildness of their motions, and immediately ordered a party of his best horse to seize, kill, and drive them from the camp: some of the Turks, emulous to display their bravery in the presence of their king, and of both armies, mounted the greatest part of the elephants, and drove the rest into an adjacent wood, where they were soon reduced to obedience*.

It would be easy to multiply examples of the warlike employment of the elephant by the princes of Hindostan, and in the Mongol empire. Such illustrations of our subject, however, would add little to its interest; for, although we should necessarily have to speak of Asiatic pomp and luxury,—of the movements of mighty armies, more interesting in the rude magnificence of their cumbrous array than the light-armed troops of modern Europe—such pictures, stimulating as they may be to the imagination, would offer scarcely any variety. Oriental despotism is as unchanging a thing as exists in a world of change. Nor is it our object to enumerate every historical notice of the animal in his connexion with mankind, but to select such of the more amusing and instructive details as are to be found in the obscurity of events long gone by. Violent political revolutions, and the

* Dow, i. 64.

slower changes of time alone, have altered the situation of the elephant even in the same regions. In India he is employed to this day as at the period of Alexander's conquest. In Persia we hear of the elephant from a time antecedent to Alexander, to the fifth century of the Christian æra; but in the seventeenth century, "the king of Persia used no elephants in his armies*." The connecting links between modern and ancient history are difficult to be traced, in this as in most other subjects of national custom and polity. In this case the information to be gathered would scarcely repay the labour of research. We therefore at once proceed to the elephants of the Macedonian conqueror and his successors, and thence to those of the Romans and Carthaginians;—to the pomps of triumphs and the cruelties of amphitheatres —to exhibitions of ancient glory and splendour, of bloodshed and madness—to battles more slaughterous and obstinate than any which have occurred since the invention of artillery—to scenes of war, which, however varied in their details from the contests of our own day, by the glittering pageantry and power of

> "Cuirassiers all in steel for standing fight,
> Chariots, or elephants indorsed with towers
> Of archers, †"

are still the same results of evil passions, sometimes, indeed, purifying the world as the hurricane clears the atmosphere, but always leaving abundant traces of devastation, which many years of tranquillity are insufficient to repair.

* Tavernier. † Paradise Regained.

Chapter X.

Employment of Elephants in War by Alexander the Great and his Successors.

Many of the notices of the elephant which we find in the ancient European writers had reference to the ages of fabulous tradition. Bacchus, the conqueror of India, the land of elephants, is frequently represented by many of the poets and historians of Greece and Rome as having these animals associated with his triumphs. By Nonnus he is described as seated on the neck of an elephant; and by Ptolemy Philadelphus, in Athenæus, as reclining in a chariot, sometimes drawn by elephants, and sometimes by tigers and panthers. Pliny says, that the first elephants which were yoked in India were those which drew the car of the conquering "Liber Pater*;" and Lucian mentions, that in the temple of the Dea Syria, were shewn foreign garments, Indian gems, and horns of elephants which Bacchus brought from Ethiopia. Such mythological allusions, however, throw no greater light upon the early history of this animal, than the representations of Bacchus, drawn in a car by four elephants, which occur in coins of Commodus, Antoninus Pius, and Alexander Severus. The earliest notice of the use of the elephant in war is that of Ctesias:—"Cyrus makes an expedition against the Derbikes, whose king was Amoræus. The Derbikes place elephants in ambush, and put to flight the horsemen of Cyrus. Now Cyrus fell from his horse, and was wounded by an Indian in the thigh; for the Indians fought with the Derbikes, and indeed supplied them with elephants†." The same writer says (as quoted by Ælian, lib. xvii) that the

* A name of Bacchus.

† Ctesias, Persian fragments in Photius, chap. 6.

King of the Indians goes to war with more than 100,000 elephants. Ctesias admits that he tells us this on hearsay; but he adds, "I *saw* elephants in Babylon overthrow palm-trees at the bidding of their driver." Herodotus, who also mentions elephants' teeth, visited Babylon about 450 or 460 B.C., and might have seen the same. Ctesias was at Babylon B.C. 401, and before and after that date. With the exception of the passages in Ctesias and Herodotus, and a slight notice in Aristophanes and Plato, it would be difficult to point out any record of the elephant antecedent to the time when the Macedonian conqueror opened the wonders of the East to the European nations. Later writers, however, speak in very precise terms of the amazing troops of elephants of war employed by the early kings of India. Arrian and Pliny tell us of one king of these regions, so prolific of marvels, possessing five hundred thousand elephants, and another seven hundred thousand. But these stories are evidently exaggerations, naturally growing out of the impressions which were produced by the first familiarity of the Europeans with a region abounding with these animals. The philosophic poet of the Romans has more temperately noticed this abundance of the Indian elephant:

"Sic uti quadrupedum cum primeis esse videmus
In genere anguimanos elephantos, India quorum
Millibus e multeis vallo munitur eturno,
Ut penitus nequeat penetrari; tanta ferarum
Vis est; quarum non perpauca exempla videmus."

Lucretius, lib. ii. v. 537.

"For though some kinds of beasts we rarely view,
As if unfruitful Nature bore but few,
Yet other countries may supply our wants:
Thus India breeds such troops of elephants
As fight their wars, and usually o'ercome;
So numerous are they there—so few at Rome."

Creech.

Amongst the stories of the elephant which, belonging to the ages of fable, must be received with considerable allowance, the most circumstantial, and at the same time the most amusing, is that of the mock-elephants of Semiramis. The narrative of Diodorus Siculus is somewhat long, but whether it be received as a truth or a fiction, it will repay the reader by its liveliness.

"Semiramis having settled her affairs in Egypt and Ethiopia, returned with her army into Asia to Bactria; and now having a great army, and enjoying a long peace, she had a longing desire to perform some notable exploit by her arms. Hearing, therefore, that the Indians were the greatest nation in the whole world, and had the largest and richest tract of land of all others, she resolved to make war upon them.

"Stabrobates was at that time king, who had innumerable forces, and many elephants bravely accoutred and fitted to strike terror into the hearts of his enemies. For India, for the pleasantness of the country, excelled all others, being watered in every place with many rivers, so that the land yielded every year a double crop; and by that means was so rich and so abounded with plenty of all things necessary for the sustenance of man's life, that it supplied the inhabitants continually with such things as made them excessively rich, insomuch as it was never known that there was ever any famine amongst them, the climate being so happy and favourable; and upon that account, likewise, there is an incredible number of elephants, which for courage and strength of body far excel those in Africa. Moreover this country abounds in gold, silver, brass, iron, and precious stones of all sorts, both for profit and pleasure. All which being noised abroad, so stirred up the spirit of Semiramis, that (though she had no provocation given her), yet she was resolved upon the war

against the Indians. But knowing that she had need of great forces, she sent despatches to all the provinces, with command to the governors to list the choicest young men they could find, ordering the proportion of soldiers every province and country should send forth, according to the largeness of it; and commanded that all should furnish themselves with new armour and arms, and all appear in three years' time at a general rendezvous in Bactria, bravely armed and accoutred in all points. And having sent for shipwrights out of Phœnicia, Syria, Cyprus, and other places bordering upon the sea-coasts, she prepared timber for them fit for the purpose, and ordered them to build vessels that might be taken asunder and conveyed from place to place wherever she pleased. For the river Indus bordering upon that kingdom, being the greatest in those parts, she stood in need of many river-boats to pass it, in order to repress the Indians. But being there was no timber near that river, she was necessitated to convey the boats thither by land from Bactria. She further considered, that she was much inferior to the Indians in elephants (which were absolutely necessary for her to make use of), she therefore contrived to have beasts that should resemble them, hoping by this means to strike a terror into the Indians, who believed there were no elephants in any place but in India. To this end she provided three hundred thousand black oxen, and distributed the flesh amongst a company of ordinary mechanics and such fellows as she had to play the coblers for her, and ordered them, by stitching the skins together, and stuffing them with straw, to imitate the shape of an elephant; and in every one of them she put a man to govern them, and a camel to carry them, so that at a distance they appeared to all that saw them, as if they were really such beasts.

"They that were employed in this work wrought a

it night and day in a place which was walled round for the purpose, and guards set at every gate, that none might be admitted either to go in or out, to the end that none might see what they were doing, lest it should be noised abroad, and come to the ears of the Indians.

"Having therefore provided shipping and elephants in the space of two years, in the third she rendezvoused all her forces in Bactria. Her army consisted (as Ctesias says) of three millions of foot, two hundred thousand horse, a hundred thousand chariots, and a hundred thousand men mounted upon camels, with swords four cubits long. The boats that might be taken asunder were two thousand; which the camels carried by land as they did the mock elephants, as we have before declared. The soldiers made their horses familiar with these feigned beasts, by bringing them often to them, lest they should be terrified at the sight of them; which Perseus imitated many ages after when he was to fight with the Romans, who had elephants in their army out of Africa. However, this contrivance proved to be of no advantage either to him or her, as will appear in the issue herein a little after related.

"When Stabrobates, the Indian king, heard of these great armies and the mighty preparations made against him, he did all he could to excel Semiramis in every thing. And first he built of great canes four thousand river-boats—for abundance of these canes grow in India about the rivers and fens, so thick as a man can scarce fathom; and vessels made of these reeds (they say) are exceeding useful, because they will never rot or be worm-eaten.

"He was very diligent, likewise, in preparing of arms, and going from place to place throughout all India, and so raised a far greater army than that of Semiramis. To his former number of elephants he added more, which he took by hunting, and fur-

nished them all with every thing that might make them look terrible in the face of their enemies; so that, by their multitude, and the completeness of their armour in all points, it seemed above the strength and power of man to bear up against the violent shock of these creatures.

"Having therefore made all these preparations, he sent ambassadors to Semiramis (as she was on her march towards him) to complain and upbraid her for beginning a war without any provocation or injury offered her; and by his private letters taxed her with a dissolute course of life, and vowed (calling the gods to witness) that if he conquered her he would nail her to the cross. When she read the letter she smiled, and said, the Indian should presently have a trial of her valour by her actions. When she came up with her army to the river Indus, she found the enemy's fleet drawn up in a line of battle; whereupon she forthwith drew up her own, and having manned it with the stoutest soldiers, joined battle, yet so ordering the matter as to have her land forces ready upon the shore, to be assisting as there should be occasion. After a long and sharp fight, with marks of valour on both sides, Semiramis was at length victorious, and sunk a thousand of the enemy's vessels, and took a great number of prisoners. Puffed up with this success, she took in the cities and islands that lay in the river, and carried away, an hundred thousand captives. After this, the Indian King drew off his army (as if he fled for fear), but in truth to decoy his enemies to pass the river. Semiramis therefore (seeing all things fall out according to her wish) laid a broad bridge of boats (at a vast charge) over the river, and thereby passed over all her forces, leaving only threescore thousand to guard the bridge, and with the rest of her army pursued the Indians. She placed the mock-elephants in the front, that the enemy's scouts might presently

inform the King what multitudes of elephants she had in her army; and she was not deceived in her hopes; for when the spies gave an account to the Indians what a great multitude of these creatures were advancing towards them, they were all in amaze, inquiring among themselves, whence the Assyrians should be supplied with such a vast number of elephants; but the cheat could not be long concealed, for some of Semiramis's soldiers, being laid by the heels for their carelessness upon the guard (through fear of further punishment), made their escape and fled to the enemy, and undeceived them as to the elephants; upon which the Indian King was mightly encouraged, and caused notice of the delusion to be spread through the whole army, and then forthwith marched with all his force against the Assyrians; Semiramis, on the other hand, doing the like. When they approached near one to another, Stabrobates, the Indian King, placed his horse and chariots in the van-guard, at a good distance before the main body of his army. The Queen having placed her mock-elephants at the like distance from her main body, valiantly received her enemy's charge; but the Indian horse were most strangely terrified; for in regard the phantasms at a distance seemed to be real elephants, the horses of the Indians (being inured to those creatures) pressed boldly and undauntedly forward; but when they came near and saw another sort of beast than usual, and the smell and every thing else almost being strange and new to them, they broke in with great terror and confusion, one upon another, so that they cast some of their riders headlong to the ground, and ran away with others (as the lot happened) into the midst of their enemies; whereupon Semiramis, readily making use of her advantage, with a body of choice men fell in upon them, and routed them, forcing them back to their main body: and though Stabrobates was something astonished at this unex-

pected defeat, yet he brought up his foot against the enemy with his elephants in the front; he himself was in the right wing, mounted upon a stately elephant, and made a fierce charge upon the Queen herself, who happened then to be opposite to him in the left. And though the mock-elephants in Semiramis's army did the like, yet they stood the violent shock of the other but a little while, for the Indian beasts, being both exceeding strong and stout, easily bore down and destroyed all that opposed them, so that there was a great slaughter; for some they trampled under foot, others they rent in pieces with their teeth, and tossed up others with their trunks into the air. The ground therefore being covered with heaps of dead carcases, and nothing but death and destruction to be seen on every hand, so that all were full of horror and amazement, none durst keep their order or ranks any longer. Upon which the whole Assyrian army fled outright, and the Indian King encountered with Semiramis, and first wounded her with an arrow in the arm, and afterwards with a dart (in wheeling about) in the shoulder; whereupon the Queen (her wounds not being mortal) fled, and by the swiftness of her horse (which far exceeded the other that pursued her) she got off *."

Although from the earliest times ivory was an article of commerce in demand amongst all the people who traded with India, the elephant does not appear to have been employed as an animal of burthen even by the Persians and Assyrians, until a comparatively recent period. The camel was the principal medium of intercourse amongst those nations. Neither is the name of the elephant (a circumstance which shews that he was unknown to the early Jews) to be found in the Hebrew language. Nearly a century before the time of Alexander, as we have already mentioned, the quadruped was noticed in the

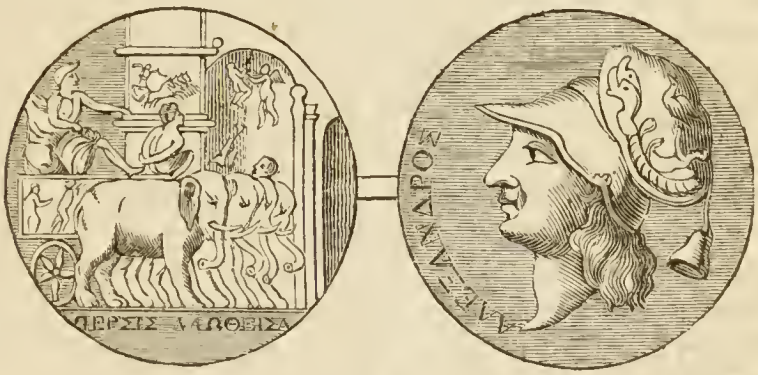
* Booth's Diodorus Siculus, book ii.

writings of several Greek authors, so that the great conqueror must have been prepared for the new danger which he had to encounter in his invasion of India; and to his ardent imagination this vague and shadowy terror must have presented an excitement as stimulating as the visions of those thrones of "barbaric pearl and gold" which he panted to lay prostrate. But he encountered the elephants of war before the passage of the Indus. At the battle of Gaugamela, commonly called that of Arbela, where the power of Darius, the Persian king, was overthrown, there were a few elephants*; and "all the elephants, and all the chariots, which were not broken in the flight, were taken†." After this great victory, the invader, on his march to Susa, was met by the governor of the province "with presents of regal magnificence. Amongst other things there were dromedaries of an extraordinary swiftness; and twelve elephants brought from India by Darius, but they were not now a terror to the Macedonians, as they were intended, but a help, fortune having transferred the riches of the vanquished to the victor‡." On the bank of the Indus some elephants were captured by the victorious army, from scattered Indians who were flying before it. Thus familiarized with the elephant, it has become a question whether Alexander, in his first great battle on the soil of India, employed the animal in his own ranks. Polyænus, a writer on military tactics, expressly asserts, that in the contest with Porus, the Indian king, the elephants were placed in the left wing of the Macedonian army; but neither Diodorus Siculus, Arrian, nor Q. Curtius, allude to this circumstance: and at a later period of the invasion, Alexander is represented by Q. Curtius as saying, "I have so despised those animals, that when I had them at my command

* Arrian, book iii. † Ibid.

‡ Quintus Curtius, book v. c. 2.; Digby's translation.

I did not employ them *." In all his Indian battles the great conqueror himself fought on horseback; and thus Sir Thomas Brown counts amongst "vulgar errors" that representation of Alexander in ancient pictures of the "the Nine Worthies," in which he is shewn mounted upon an elephant †. This picture has probably been derived from the traditions and poetical descriptions of the triumphs of Alexander. The historian describes his entry into Babylon as amongst the most splendid displays of oriental pomp:—the roads strewed with flowers and garlands, and adorned with silver altars filled with frankincense;—droves of cattle and horses, and lions and leopards in strong cages;—the Magi and Chaldæans singing hymns in praise of the conqueror, and musicians sounding their instruments in his honour;—lastly, the King himself, in a chariot ‡. There is here no mention of elephants; but the medallists of antiquity §, and the painters of modern



* Book ix. c. 2. † Vulgar Errors, book v. c. 13.

‡ See Quintus Curtius, book v. c. 1.

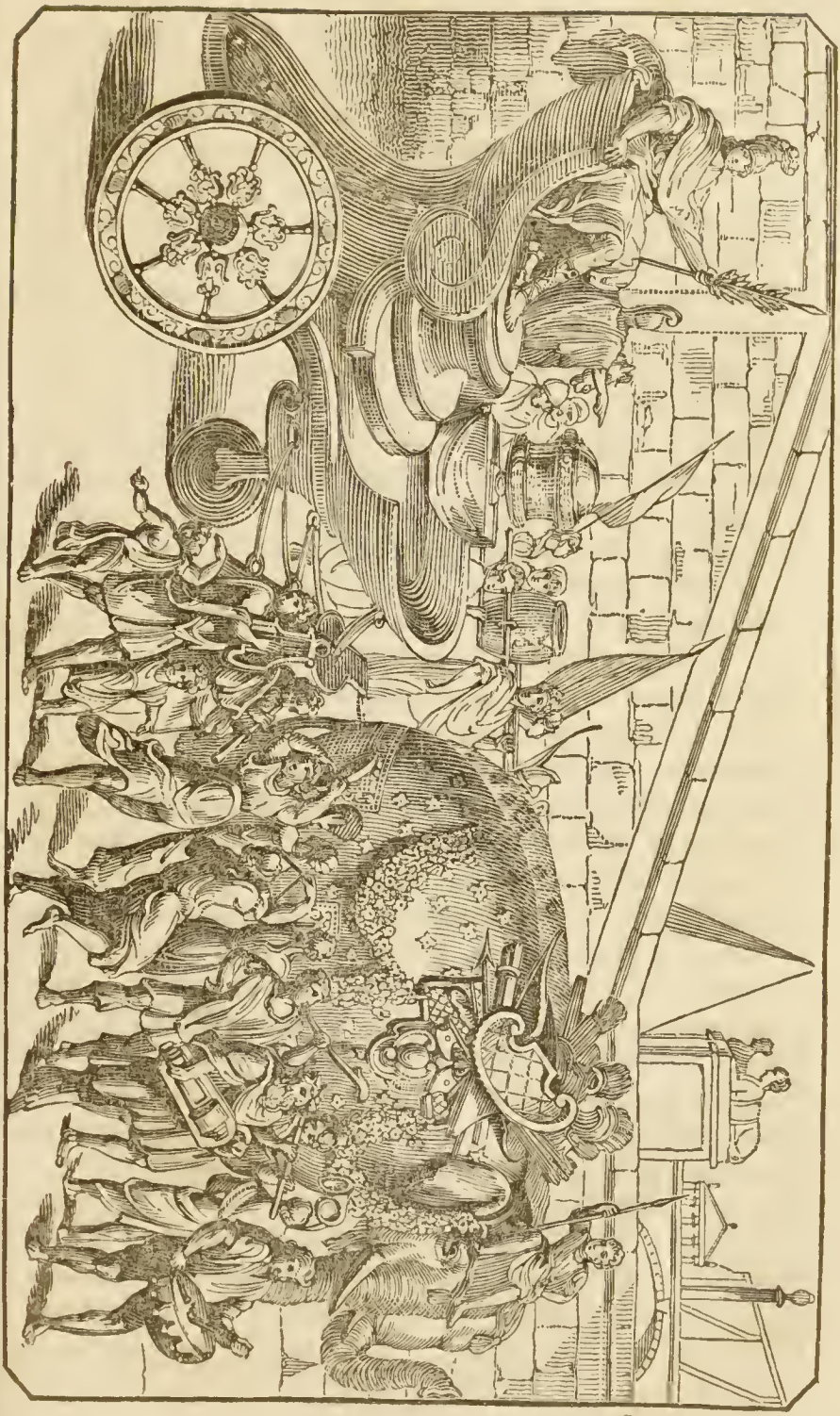
§ The above medal was published in the Museum Cuspinianum, edited by Laurentius Legatus, who thinks that though it cannot be ascribed to the time of Alexander, it is of ancient date. The reverse seems to represent Alexander after his conquests in Persia, entering the gate of a city or a triumphal arch in a chariot

times *, have chosen to call the most stately of quadrupeds to the pomp of this triumphal march.

The invader of the East having passed the Indus encountered no enemy till he reached the Hydaspes. On the opposite bank lay the army of King Porus. The breadth and rapidity of the river, the formidable numbers of the hostile forces, the chariots of war which were distributed amongst their ranks, and above all the prodigious size and multitude of the elephants, struck dismay into the soldiers of Alexander. "There," says Quintus Curtius, "stood those huge bulks of overgrown bodies, the elephants, which being on purpose provoked, filled the air with a horrible noise." The river had to be passed with boats; and the great danger to be apprehended was, that the horses of the Greeks, upon perceiving the elephants, would be seized with fear and leap into the water. For several days the Macedonians and the Indians lay encamped on the opposite banks of the river, the one attempting to effect the passage by stratagem, the other constantly resisting the attempt with the terror of the elephants. Porus, however, relaxing in his watchfulness, and being deceived by a diversion of a part of the army of Alexander, the great body of the Macedonians were safely conveyed across. But the Indian king was resolved not to yield up his dominions without a struggle. He drew up his army in order of battle upon "a plain where the soil was not incommodious by reason of the slippery clay, but firm and sandy, and every way fit for wheeling his chariots round upon. First, he placed the elephants in the front, at the distance of one hundred feet from each other, to cover the whole body

drawn by four elephants. The obverse is the head of Alexander; on one side of his helmet Neptune is represented. The medal is probably spurious.

* The larger engraving of the triumph of Alexander is from a print after Seb. le Clerc, a French artist.



Triumh of Alexander. From a print after Seb. le Clerc.

of foot, and at the same time to strike a terror into Alexander's horse; for he imagined that none, either horse or foot, would be so hardy as to endeavour to penetrate through the spaces between the elephants; the horsemen, he thought, could not, because their horses would be terrified at the sight, and the foot would not dare, because the armed soldiers would be ready to gall them on each hand, and the elephants to trample them under their feet. The foot possessed the next rank; they were not indeed placed in the same order with the elephants, but so small a way behind, that they seemed to fill up the interstiees. At the extremities of each wing he placed elephants, bearing huge wooden towers, wherein were armed men; the foot were defended on each hand by the horse, and the horse by the chariots, which were placed before them *."

With the caution which is the best characteristic of a skilful general, Alexander resolved to avoid a direct attack upon the main body of the elephants. Perhaps the alarm which his soldiers are described to have felt at "those beasts which, being disposed amongst the men in front, at a distance bore the appearance of towers," might have somewhat influenced this determination. The elephant which carried Porus himself, a man of extraordinary stature, was greatly superior to all the rest in height. Alexander is described as rejoicing in the splendid appearance of the enemy which he trusted to subdue. "At last I have met with a danger suitable to the greatness of my soul †." The long pikes of the Macedonian phalanx, the rapid movements of the cavalry, and the cloud of arrows poured in by the light-armed Thracians, soon spread a panic amongst "the Indians." But the elephants for a long time sustained the assaults of their impetuous enemies. They tram-

* Arrian, book v. c. 15. † Quintus Curtius, book viii.

pled the infantry under their feet; and "the most dismal thing of all was when these animals took up the armed soldiers with their trunks and delivered them up to their governors on their backs *." The day was far spent, and still the fight was doubtful; till at length the Macedonians directed all their power against the sagacious beasts that threatened to baffle the skill and bravery of the most disciplined troops of the earth. The Greeks chopped their legs with axes, and cut off their trunks with a crooked weapon resembling a scythe †. While the infantry of Alexander thus encountered the principal strength of the Indians, his cavalry closed round them in overwhelming masses. "And the beasts being now pent up in a narrow space, and violently enraged, did no less mischief to their own men than the enemy; and as they tossed and moved about, multitudes were trampled to death; besides, the horse being confined among the elephants, a huge slaughter ensued, for many of the governors of the beasts being slain by the archers, and the elephants themselves, partly enraged with their wounds, and partly for want of riders, no longer kept any certain station in the battle, but running forwards, as if madness had seized them, they pushed down, slew, and trampled under foot friends and foes without distinction; only the Macedonians having the advantage of a more free and open space, gave way and made room for the furious beasts to rush through their ranks, but slew them whenever they attempted to return; but the beasts at last, quite wearied out with wounds and toil, were no longer able to push with their usual force, but only made a hideous noise, and moving their fore feet heavily, passed out of the battle ‡."

* Quintus Curtius, book viii. † Ibid.

‡ Arrian, book v. chap. 17.

Although his forces were scattered all around him, the courage of the Indian king remained unconquerable. Exposed "as a mark at which every one levelled," he had received nine wounds, before and behind; but he still continued to hurl his javelins at the enemy till they might be said "to drop from his faint arm rather than be delivered." The governor of Porus's elephant at last put the beast to flight; and Alexander himself slowly followed him upon a wounded horse. At length Porus, exhausted by his wounds, slid down from the back of his elephant; and the Indian guide, thinking the King desired to alight, commanded the animal to kneel down. The whole of the elephants were accustomed to imitate the movements of that upon which the King rode, and in like manner they instantly knelt down, and thus became a prey to the conquerors *. Their habitual obedience to their masters involved their common ruin.

The memory of this great battle remained fresh

This medal is supposed by some antiquaries to represent Alexander covered with the head-skin of an elephant. On the reverse is Minerva armed with a helmet, shield and spear, and before her is an eagle holding lightning in his talons, with the epigraph ΑΛΕΞΑΝΔΡΟΥ. It is supposed by Beger to refer to the defeat of the elephants of Porus.

* Quintus Curtius.

amongst the Indians for several centuries afterwards. In the Life of Apollonius of Tyana (a book of somewhat doubtful authority) it is stated that this traveller, coming to Taxila, a town in India, met with an elephant which the inhabitants perfumed with sweet odours and adorned with garlands. On his tusks were rings of gold, on which were inscribed Greek characters to this effect, "Alexander son of Jupiter dedicates Ajax to the Sun." Ajax was said to be the elephant of Porus; and to have had not only the good fortune of surviving the slaughter which attended his master's defeat, but of living to be thus honoured three hundred and fifty years after the battle.

The power by which Alexander had subdued the mighty monarchs of the East was not of a nature to derive any considerable assistance from the service of the elephants that had become the spoil of his victories. His was the peculiar force of an advanced civilization—the energy, the compactness, the rapid movement of perfect discipline—opposed to the indecision, the scattered strength and the slow parade of a condition of splendid barbarism. Although, therefore, the conqueror was careful to deprive his enemy of that arm of war which he himself described as "at best but a dangerous succour"—although in his triumphant march beyond the Indus, he gladly received every accession of elephants which the terror of his name or the instant force of his sword might procure him, and even created amongst his followers an *elephantarch*, or governor of the elephants,—yet it does not appear that he actively employed the animal in his own armies. He was satisfied to exhibit these spoils of war to the wondering eyes of the people whose territories he had overrun. When he gave laws to the kings and ambassadors who came to do homage to his power, his tent was surrounded by

elephants *. He adopted the customs of the princes of the East, to secure to himself the reverence of the people who obeyed them, through the influence of their ancient associations. He employed elephants too, in the barbarous sports by which conquerors have been wont to gratify their own pride, and secure the blind admiration of the many who enchain themselves to their chariot wheels. Pliny tells a story of a dog of wonderful size, presented to Alexander by a king of Albania, that, having vanquished a lion, was let loose upon an elephant, and by his craft and courage laid the enormous beast prostrate with a fall which shook the earth upon which they stood †. But the victories of Alexander enabled the naturalists of Greece to behold an animal which had been the subject of mistakes and exaggerations, perhaps in a greater number than attached to any other quadruped. Aristotle then first described his habits with singular correctness; and it is remarkable that succeeding naturalists, in deviating from the account of the Greek philosopher, have only exhibited their own want of judgment.

When Alexander, who, in the words of the writer of the book of Maccabees, had made "many wars, and won many strong holds, and slew the kings of the earth, and went through to the ends of the earth, and took spoils of many nations, fell sick and perceived that he should die, he called his servants, such as were honourable and had been brought up with him from his youth, and parted his kingdom among them." His elephants naturally came into the possession of his successors. By these captains they appear to have been generally employed in the sanguinary wars which arose out of their individual

* Polyænus, lib. iv. cap. 3. See also Athenæus, lib. xii. cap. 9.

† Plinii, Nat. Hist. lib. viii. cap. 40.—See p. 197.

contests for empire; and these ambitious struggles had a natural tendency to spread the use of the elephant over new regions. Eumenes, for example, obtained a large number of these animals which had belonged to King Porus, through the treacherous murder of the Indian monarch. In his battle with Antigonus elephants were employed in both armies *; and those of Eumenes were under the command of an Indian captain. Polysperchon, in his attack upon the city of Megalopolis, employed sixty-five elephants, which from their great size and strength were considered invincible; but the elephants were destroyed, as well as the flower of his army, by a stratagem of the besieged, who tempted them into ditches, in which spikes were placed lightly covered with earth; and here the foundered animals, unable to advance or retreat, perished under the arrows and stones of the assailants †. At the siege of Pydna, in Macedonia, where Cassander blockaded Olympias till the besieged were reduced to the extremity of famine, the elephants were compelled to eat saw-dust, and they "pined away for want of food ‡."

In the histories of the early wars between Ptolemy and the rival leaders of Alexander's forces, there is frequent mention of the use of elephants. When Perdiccas marched to the Nile, and assaulted the fort called 'the Camel's wall,' he "boldly led up his army close to the fort; and forthwith, the targeteers with their ladders mounted the wall, and those that rode upon elephants threw down the fortifications, and demolished the bulwarks. Whereupon, Ptolemy, with those of his own guard about him, to encourage the rest of his officers and friends manfully to behave themselves, catched hold of a sarissa §,

* Diodorus Siculus, lib. xix. cap. 2.
† Ibid. lib. xviii. cap. 5. ‡ Ibid. lib. xix. cap. 3.
§ A long pike.

and mounted the bulwark; and so, being on the higher ground, struck out the eyes of the foremost elephant, and wounded the Indian that sat upon him; and as for those that scaled the walls, he hurled them down, dreadfully cut and wounded, (together with their arms) into the river. After his example, Ptolemy's friends valiantly exerted themselves, and, by killing the Indian that governed the next elephant, the beast became unserviceable *." When Ptolemy and Seleucus attacked Demetrius at Gaza, their first care was to protect their army from the shock of the elephants of their enemy; and for this purpose they prepared "an iron palisado, sharp-pointed with iron, and fastened together with chains." The narrative of Diodorus Siculus shews that the precaution was not taken in vain. "And now, when the fight between the horse had been a long time doubtful, the elephants, forced on by the Indians, made so terrible an onset, that it appeared impossible for any force to have stood against them. But when they came up to the palisado, the darters and archers sorely galled both the beasts and their riders; and being still forced on, and whipt by the Indians, some of them stuck upon the sharp points of the palisado, with which, besides the multitude of the darts and arrows that galled them, they were in such pain and torment, that they caused a horrible tumult and confusion; for these creatures, in plain and level places, bear down all before them; but in those which are rough and craggy, they are of no use or service, because of the tenderness of their feet. Ptolemy therefore, wisely foreseeing of what advantage this palisado would be, by that means frustrated the rage and fury of the beasts. At length most of the Indians that rode them being killed, all the elephants were taken; upon which the greatest part of

* Diodorus Siculus, lib. xviii. cap. 3.

Demetrius's horse were in such a consternation, that they forthwith fled *."

In these battles we find Ptolemy cautiously opposing the strength of the elephants by mechanical contrivances, or throwing them into disorder by determined assaults of personal bravery. But the time soon arrived when he determined to meet his enemies with the same description of military force. His rivals obtained their elephants from India;—Ptolemy resolved to seek them in Ethiopia. The African elephants were not considered by the ancients so formidable as those of India†; but the Egyptian king probably was enabled to put himself in some degree upon an equality with his opponents, by the ease with which he could hunt them in the Ethiopian forests. He issued an edict forbidding their slaughter, that they might be taken alive. Ptolemy Philadelphus, his son and successor on the throne of Egypt, employed elephants in that splendid pomp which he exhibited in Alexandria, where images of

Medal, supposed to be a head of Ptolemy Philadelphus.

* Diodorus Siculus, lib. xix. cap. vi.

† See the account of the battle of Raphia, in the next page; and a notice of the elephants of Scipio, p. 285.

Bacchus and of Satyrs were carried upon elephants, and twenty-four chariots drawn by elephants moved along, attended by six hundred Ethiopian slaves, each bearing an elephant's tusk*. The third Ptolemy has recorded, in an inscription, that the kings of Egypt obtained their elephants from Ethiopia and the country of the Troglodytes, and he ascribes his victories over Antiochus Theus, the king of Syria, to the possession of this force†.

In the great battle of Raphia, between Ptolemy Philopator, the fourth of the dynasty, and Antiochus the Great, elephants were opposed to each other in nearly equal numbers. Polybius has described the contest of the elephants with his accustomed spirit:— "The signal was sounded to engage, and the elephants approaching first, began the combat. Among those that belonged to Ptolemy, there were some that advanced boldly against their adversaries. It was then pleasing to behold the soldiers engaged in close combat from the towers, and pushing against each other with their spears. But the beasts themselves afforded a far nobler spectacle, as they rushed together, front to front, with the greatest force and fury. For this is the manner in which they fight. Twisting their trunks together, they strive each of them with his utmost force to maintain his own ground, and to move his adversary from his place: and when the strongest of them has at last pushed aside the trunk of the other, and forced him to turn his flank, he then pierces him with his tusks in the same manner as bulls in fighting wound each other

* See p. 343.

† This inscription, called that of Adulis (see the Periplus of the Erythræan sea), is found in the travels of Cosmas, a traveller of the sixth century, who says that, in his time, the Ethiopians themselves could not train elephants for war. See Cuvier, "Ossemens Fossiles," tom i. p. 52.

with their horns. But the greater part of the beasts that belonged to Ptolemy declined the combat. For this usually happens to the elephants of Afric, which are not able to support either the smell or cry of the Indian elephants. Or rather, perhaps, they are struck with terror at the view of their enormous size and strength; since even before they approach near together they frequently turn their backs and fly: and this it was which at this time happened. As soon, therefore, as these animals, being thus disordered by their fears, had fallen against the ranks of their own army, and forced the royal guards to break the line, Antiochus, seizing the occasion, and advancing round on the outside of the elephants, charged the cavalry which was commanded by Polycrates in the extremity of the left wing of Ptolemy. At the same time, also, the Grecian mercenaries, who stood within the elephants near the phalanx, advanced with fury against the peltastæ and routed them with little difficulty, because their ranks likewise were already broken by the elephants. Thus the whole left wing of the army of Ptolemy was defeated and forced to fly*."

Nearly a century and a half afterwards we find a successor of Antiochus employing elephants of war in his battles with the Jews. The reader is familiar with the singular passage in the book of Maccabees, which describes the mode in which the animal was used in battle; but we transcribe it, as completing the picture of elephant tactics, which gave a new character to the wars of Asia after the conquest of India:— "To the end they might provoke the elephants to fight they shewed them the blood of grapes and mulberries. Moreover they divided the beasts among the armies, and for every elephant they appointed a thousand men, armed with coats of mail,

* Polybius (Hampton's Translation), book v. chap. viii.

and with helmets of brass on their heads; and besides this, for every beast were ordained five hundred horsemen of the best. These were ready at every occasion: wheresoever the beast was, and whithersoever the beast went, they went also, neither departed they from him. And upon the beasts were there strong towers of wood, which covered every one of them, and were girt fast unto them with devices; there were also upon every one thirty-two strong men, that fought upon him, beside the Indian that ruled him."

The same history presents an example of courage and self-devotion, which shews how much the elephant was an object of dread, and at the same time how little his real power could avail against human heroism:—"Eleazar also, surnamed Savaran, perceiving that one of the beasts, armed with royal harness, was higher than all the rest, and supposing that the King was upon him, put himself in jeopardy, to the end he might deliver his people, and get him a perpetual name; wherefore he ran upon him courageously through the midst of the battle, slaying on the right hand and on the left, so that they were divided from him on both sides. Which done, he crept under the elephant, and thrust him under, and slew him: whereupon the elephant fell down upon him, and there he died*."

It would be tedious further to follow the scattered notices of the employment of the elephant in war in the various monarchies that succeeded the empire of Alexander. We have already seen that they were abundantly used in Syria; and it is to be remarked that the founder of the dynasty which so long governed Upper Asia, Seleucus Nicator, attached so much importance to this species of force, that he gave an entire province on the borders of the Indus in exchange for five hundred of the elephants of San-

* Maccabees, book i. chap. vi.

drocottus*, which he kept at Apamea, in Syria†. But, after the lapse of two centuries, as Syria and other kingdoms of the East became tributary to Rome, the use of the animal in their armies was either forbidden or discouraged. Almost the last record which we find of the elephant in Syria is a coin struck in honour of Antiochus, surnamed Epiphanes Dionysius, who was raised to the throne of that kingdom in the 225th year of the era of the Seleucidæ (B. C. 87), which represents the quadruped bearing a torch, according to the custom of the Syrian monarchs, with the horn of plenty behind him.

* Strabo, lib. xv. p. 724. Casaub. The Latin translation of Strabo has, through some mistake, "L" as a translation of πενταχοσίους. Cuvier has copied the error, (Ossemens Fossiles, tom. i. p. 76.) It was *these five hundred* elephants that Seleucus placed at Apamea, for Strabo says, "Seleucus Nicator placed there *the* five hundred elephants," &c.

† Strabo, lib. xvi. p. 752.

Chapter XI.

EMPLOYMENT OF ELEPHANTS IN WAR AND IN TRIUMPHS BY THE CARTHAGINIANS AND ROMANS.

About half a century after the death of Alexander the elephant was first seen in Italy. In the battle of Heraclea (B. C. 280), Pyrrhus, King of Epirus, employed twenty Indian elephants against the Romans. They had towers upon their backs full of bowmen; and Pyrrhus is described to have been indebted for his victory to the terror which the first sight of the elephants inspired*. The King of Epirus, indeed, appears to have greatly relied upon the impressions to be produced by this new danger; but he had to contend with a people little accustomed to be shaken by vague apprehensions. When Fabricius

* Florus, lib. i. cap. 18.

went to Epirus to negociate an exchange of prisoners with Pyrrhus, the King on one day offered him gold, which he refused; and on another, during their conference, caused an elephant to be suddenly produced, hoping to wrest from the fears of the Roman general those concessions which he could not obtain by his bribes. The honest and undaunted warrior with a smile said, "Neither your gold yesterday nor your beast to-day has made any impression upon me*." Within four years after the battle of Heraclea the elephants of Pyrrhus had ceased to be formidable. Curius Dentatus commanded his soldiers to attack them with burning torches in one hand and their swords in the other. An accident, too, completed the effect of this well-conceived plan. A young elephant having been wounded, made a fearful roaring, and his mother rushing through the field to his succour, and being followed by others, threw the troops of Pyrrhus into complete disorder†. Four of the captured elephants were led in triumph to Rome, where they were called Lucanian oxen, probably because they were first seen by the Romans in Lucania‡. At the siege of Argos, Pyrrhus was equally unfortunate in the employment of this quadruped. In the rush of his army into the town, the gates were too low to admit the turretted elephants, and the animals crowding back carried disorder into the ranks of the assailants. Plutarch, who mentions this circumstance, relates a romantic tale of the

* Plutarch; "Pyrrhus." † Eutropius, lib. ii.

‡ Pliny, lib. viii. cap. 6. The elephant was very generally called the Lucanian ox by the Roman writers. The etymology of the Ἐλέφας of the Greeks is involved in some obscurity. Thomas Hyde, an Englishman well skilled in the oriental languages, states that the animal is called by the Arabs *phîl*, by the Persians *pil*, by the Syrians *philo*, and by the Spaniards *alfil;* that the *phîl* of the Arabs became Ελφίνος in Coptic—whence Ελφιν—Ελεφαν, Ελεφας. The Jews of the middle age called elephants' teeth *shen-de-phin*, i. e. *shen-de-phil*.—See Cuper de Elephantis, p. 103.

affectionate courage of the elephant of Pyrrhus on this occasion, who kept a host of enemies at bay when his master had fallen from his back, and taking him in his trunk, succeeded in removing him to a place of safety. In a similar spirit it is told of the elephant of Porus, that he extracted the darts from his master's wounds. Plutarch and Ælian, who were almost contemporary, both give these questionable anecdotes, which they probably derived from some common tradition.

The Romans having thus subdued the elephants of India, had soon to encounter those of Africa in much more formidable numbers. In the first Punic war, Regulus, the Roman consul, in his career of splendid success, captured eighteen elephants at the battle of Adis; but Xantippus, the Lacedemonian, having taken the command of the Carthaginian troops, so judiciously availed himself of the power of his elephants, that he completely routed the Roman army. For some time after this event the Roman soldiers dreaded to encounter the formidable beasts who had trampled their legions in pieces, and the Carthaginians, consequently, lost no occasion for their employment. The forests of Africa abundantly supplied whatever numbers the expenditure of war might demand; and the Carthaginians not only relied upon this arm of war on their own soil, but carried their elephants across the Mediterranean into Sicily. At the siege of Panormus (Palermo) the Carthaginian officer drew up a hundred and forty elephants in one line, in his attack upon the city; but the Roman consul, Metellus, pouring down a shower of darts from the ramparts, they fled in dismay, and the Roman troops, taking advantage of the rout, obtained a complete victory over the Carthaginian army*. Upwards of a hundred elephants were captured, and the consul,

* Frontinus, lib. ii. cap. 5, § 4.

desirous to exhibit this extraordinary spoil to the admiring Romans, caused an immense raft to be constructed of planks, covered with earth, placed upon empty barrels, upon which the whole number of the elephants were conveyed across the straits, to Rhegium (Reggio)*. The Roman people having been sufficiently gratified by the exhibition of these rare quadrupeds, the State, with a republican economy, caused them to be put to death, perceiving that the charge of their maintenance was not compensated by any services which would be derived from them†. It is stated also, that the patient animals were treated with the greatest indignity, being driven round the Circus by slaves with blunted spears. This was, doubtless, to wipe away the popular impression of the terror which had been produced by the defeat of Regulus; and was somewhat like the policy of exhibiting kings in chains, and barbarian warriors in all the humiliation of slavery, to pamper the pride of the Roman citizens.

The defeat of the Carthaginian elephants by Metellus does not appear in any degree to have discouraged the national use of the quadruped. Hannibal employed them in his battles in Spain; and after the capture of Saguntum (B. C. 218), he received reinforcements of the animal from Africa. In this year commenced the second Punic war. Hannibal set out to encounter the Romans on their own ground, with an army of fifteen thousand foot and thirty-seven elephants‡. Having effected the passage

* Livy and Seneca state the number thus conveyed to Rome to have been one hundred and twenty; Dion one hundred and thirty-eight.

† Plin. Hist. Nat. lib. viii. cap. 7. Verrius is cited by Pliny as the authority for this account; but the naturalist states that other authors affirm that they were not killed.

‡ Appian. See also Eutropius, lib. iii.

of the Pyrennees, he, according to some authorities, traversed Roussillon and Langnedoc, and crossed the Rhone at Orange. The elephants were made to pass the rapid river with extreme difficulty. Livy states that the Carthaginian general, being unable to overcome their violent reluctance to enter the stream by ordinary means, directed the guide of one of the fiercest to irritate the animal, and then plunge into the river. The elephant followed him in a transport of rage; and the remainder, imitating his example, reached the opposite shore*. The account which Polybius gives of this circumstance is, however, materially different. The narrative of the Greek historian is so interesting in itself, and so illustrative of the habits of the animal, that we willingly transcribe it†.

"Hannibal having posted his cavalry as a reserve on the side towards the sea, commanded the infantry to begin their march, while himself waited to receive the elephants, and the men that were left with them on the other side of the river. The passage of the elephants was performed in the following manner:— When they had made a sufficient number of floats, they joined two together and fastened them strongly to the ground upon the bank of the river. The breadth of both together was about fifty feet. To the extremity of these they fixed two more, which were extended over into the water; and to prevent the whole from being loosened and carried down the river by the rapidity of the current, they secured the side that was turned against the stream by strong cables fastened to the trees along the bank. Having in this manner finished a kind of bridge, which was extended to the length of about two hundred feet, they then added to it two other

* Livy, lib. xxi. cap. 28.

† Silius Italicus has described the passage of the Rhone by the elephants, in his third book.

floats of a much larger size, which were very firmly joined together, but were fastened in so slight a manner to the rest, that they might at any time be separated from them with little difficulty. A great number of floats were fixed to these last floats, by the help of which, the boats that were designed to tow them over might hold them firm against the violence of the stream, and carry them in safety with the elephants to the other side. They then spread a quantity of earth over all the floats, that their colour and appearance might as nearly as was possible resemble the ground on shore. The elephants were usually very tractable upon land, and easy to be governed by their conductors, but were at all times under the greatest apprehensions whenever they approached the water. Upon this occasion, therefore, they took two female elephants, and led them first along the floats; the rest readily followed; but no sooner were they arrived upon the farthest floats, than the ropes being cut which bound them to the rest, they were immediately towed away by the boats towards the other side. The elephants were seized with extreme dread, and moved from side to side in great fury and disorder. But when they saw that they were every way surrounded by the water, their very fears at last constrained them to remain quiet in their place. In this manner two other floats being from time to time prepared and fitted to the rest, the greater part of the elephants were carried safely over. There were some indeed, that were so much disordered by their fears, that they threw themselves into the river in the midst of their passage. This accident was fatal to the conductors, who perished in the stream; but the beasts themselves, exerting all their strength, and raising their large trunks above the surface of the river, were by that means enabled not only to breathe freely, but to discharge

the waters also as fast as they received them; and having by long struggling surmounted likewise the rapidity of the stream, they at last all gained the opposite bank in safety *."

In his march along the bank of the Isere, towards the pass of the Little St. Bernard, Hannibal encountered the most determined resistance from the hardy mountaineers, who rolled down fragments of rock upon his advanced guard; but whenever the elephants appeared, the people fled in terror. As he proceeded into the Alps, the same result of their formidable and strange appearance compensated the Carthaginian for the delays which they necessarily interposed to the rapidity of his march. The ground was slippery with a recent fall of snow, and the fearful acclivities, even without this obstacle, were little suited to the progress of the elephant, the inhabitant of the plains. In fifteen days the passage was accomplished, but the army was reduced to twenty thousand foot and six thousand horse. These mighty passes, through which neither the energies of war nor the quiet strength of commercial intercourse had created safe and practicable roads, saw their rugged pathways strewn with the carcases of men and beasts who toppled over the fearful chasms, or perished by exhaustion and want of food:

"Great was the tumult there,
Deafening the din, when in barbaric pomp,
The Carthaginian, on his march to Rome,
Entered their fastnesses. Trampling the snows,
The war-horse reared, and the towered elephant
Upturned his trunk into the murky sky,
Then tumbled headlong, swallowed up and lost,
He and his rider." *Rogers's Italy.*

The number of elephants destroyed is not mentioned by the historians; many necessarily perished, but

* Polybius, by Hampton, book iii. chap. 4.

enough remained to constitute a powerful force, soon to be employed in the battles of the Ticinus and of the Trebia. It is difficult to imagine how these animals were conveyed at all through the tremendous passes of the Alps, without some mechanical contrivance. In the Roman invasion of Macedon, the consul, Martius, facilitated the descent of the elephants down a steep mountain by the construction of temporary bridges*. It does not appear that Hannibal adopted any similar means, but relied upon that all-conquering energy which, in its general influence upon his army, has rendered this celebrated passage of the Alps one of the most wonderful events of ancient history.

The historians minutely describe the powerful effects which the elephants produced in the battle of the Trebia. Livy records that the Gauls, who were auxiliaries of the Romans, could not bear up against the fierceness of their assaults. Appian states that the Roman horses in this great battle could endure neither the sight nor the smell of the elephants. Silius Italicus assigns the victory of Hannibal principally to his elephants. The poet of the Punic war has described a contest between an elephant and a Roman soldier with great spirit and pomp of language:—

"Accumulat clades subito conspecta per undas
Vis elephantorum turrito concita dorso.
Namque vadis præceps rapitur, ceu proruta cautes
Avulsi montis, Trebiamque insueta timentem
Præ se pectore agit, spumantique incubat alveo.
Explorant adversa viros, perque aspera duro
Nititur ad laudem virtus interrita clivo.
Namque inhonoratam Fibrenus perdere mortem
Et famæ nudam impatiens, Spectabimur, inquit,
Nec, Fortuna, meum condes sub gurgite letum.

* Livy, lib. xliv. cap. 5.

Experiar, sitne in terris, domitare quod ensis
Non queat Ausonius, Tyrrhenave permeet hasta.
Tum jacit adsurgens, dextroque in lumine sistit
Spicula sæva feræ, telumque in vulnere linquit.
Stridore horrisono penetrantem cuspidis ictum
Bellua prosequitur, laceramque cruore profuso
Attollit frontem, ac lapso dat terga magistro.
Tum verò invadunt jaculis, crebraque sagitta,
Ausi jam sperare necem, immensosque per armos
Et laterum extentus venit atra cuspide vulnus.
Stat multa in tergo et nigranti lancea dorso,
Ac sylvam ingentem concusso corpore vibrat:
Donec, consumtis longo certamine telis,
Concidit, et clausit magna vada pressa ruina."

Silius Ital. lib. iv.

" For as
The tower'd elephants attempt to pass,
Into the flood with violence they fell
(As when a rock torn from its native hill
By tempests, falls into the angry main);
And Trebia, afraid to entertain
Such monstrous bodies, flies before their breast,
Or shrinks beneath them with their weight oppress'd.
But as adversity man's courage tries,
And fearless valour doth to honour rise
Through danger, stout Fibrenus doth disclaim
A death ignoble, or that wanted fame;
And cries, 'My fate shall be observ'd, nor shall
Fortune beneath these waters hide my fall.
I'll try if earth doth any living bear
Which the Ausonian sword and Tyrrhen spear
Cannot subdue and kill.' With that, he press'd
His lance into the right eye of the beast,
That, with blind rage, the penetrating blow
Pursued; and tossing up his mangled brow,
Besmear'd with reeking blood, with horrid cries
Turns round, and from his fallen master flies;
Then with their darts and frequent arrows all
Invade him, and now dare to hope his fall.

His immense shoulders and his sides appear
One wound entire; his dusky back doth bear
Innumerable shafts, that, like a wood,
Still waving as he moved, upon him stood;
Till, in so long a fight, their weapons all
Consum'd, he fell, death hasting through his fall."

Silius Ital. by Thomas Ross, 1661, p. 111, folio.

In crossing the Apennines after the battle of the Trebia, seven of these animals were starved to death *. The small number remaining to Hannibal was probably still more reduced by subsequent fatigue, till at last, in passing the Arno, which was swollen by the mountain torrents, large numbers of men and horses perished; and of his elephants there only remained to Hannibal that Getulian beast on which he himself rode †.

"O qualis facies, et quali digna tabella
Cùm Gætula Ducem portaret bellua luscum!"

Juvenal, Satire 10.

"O for some master-hand the chief to trace,
As through th' Etrurian swamps, by rain increased,
Spoil'd of an eye, he flounced on his Getulian beast!"

Gifford.

In a previous passage of the Pô, the Carthaginian leader had advantageously employed his elephants, by forming them in a line across the shallow river, so that the force of the current being broken by those bulky masses, his soldiers might pass through with comparative ease ‡. Perdiccas put his elephants to a similar use in his unfortunate passage of the Nile near Memphis.

The elephants with which Hannibal had crossed the Alps had thus wholly perished; but he had found their services too valuable to conduct the war without their aid. He was supplied with large rein-

* Livy, lib. xxi. cap. 58. † Livy, lib. xxii. cap. 2.
‡ Livy, lib. xxi. c. 47.

forcements from Carthage. At the battle of Cannæ (B.C. 216) the Roman general attacked them with fire-brands, setting fire also to the wooden towers on their backs, and some of the terrified animals plunged into the river. Silius Italicus has described with his accustomed power the services of Hannibal's elephants at this memorable battle. Neither Livy nor Appian, however, mention the picturesque circumstances of which that poet has availed himself. We can only afford space to copy the passage which recounts the terror of the elephants at the conflagration of their turrets:—

" Spargi flagrantes contra bellantia monstra
Dardanius tædas ductor jubet, et facis atræ
Quos fera circumfert compleri sulfure muros.
Nec jusso mora: collectis fumantia lucent
Terga elephantorum flammis, pastusque sonoro
Ignis edax vento per propugnacula fertur.
Non aliter Pindo Rhodopeve incendia pastor
Cum jacit, et sylvis spatiatur fervida pestis,
Frondosi ignescunt scopuli, subitoque per alta
Collucet juga dissultans Vulcanius ardor.
It fera candenti torrente bitumine corpus
Amens, et laxo diducit limite turmas.
Nec cuiquam virtus propiora capessere bella;
Longinquis audent jaculis et arundinis ictu.
Uritur impatiens, et magni corporis æstu
Huc atque huc jactas accendit bellua flammas:
Donec vicini tandem se fluminis undis
Præcipitem dedit, et, tenui decepta liquore
Stagnantis per plana vadi, tulit incita longis
Exstantem ripis flammam, tum denique sese
Gurgitis immersit molem capiente profundo."

Sil. Ital. lib. ix.

" The yet prevailing Roman, to withstand
The fury of these monsters, gives command
That burning torches, wheresoe'er they go,
Should be opposed, and sulph'rous flames to throw

Into their towers. This, with all speed, obey'd,
The elephants they suddenly invade;
Whose smoking backs with flames collected shined,
That, driven on by the tempestuous wind,
Through their high bulwarks fire devouring spread.
As when on Rhodope or Pindus' head
A shepherd scatters fire, and through the groves
And woods, like an hot plague, it raging moves,
The leafy rocks are fired, and all the hills,
Leaping, now here, now there, bright Vulcan fills.
But when the burning sulphur once begun
To parch their skins, th' unruly monsters run
Like mad, and drive the cohorts from their stand:
Neither durst any undertake at hand
To fight them; but their darts and javelins throw
At distance: burning, they impatient grow,
And, through the heat of their vast bodies, here
And there, the flames increasing bear;
Till, by the smooth adjoining stream, at last
Deceiv'd, themselves into 't they headlong cast;
And with them all their flames, that still appear
'Bove the tall banks, till, both together, there,
In the deep channel of the flood expire."

Silius Ital. by Thomas Ross, 1611, p. 264.

Pliny has recorded, to the disadvantage of Hannibal, that after this battle he caused a combat to take place between some of his Roman prisoners and an elephant; and that having promised his liberty to the soldier who should be victor, one of them had the good fortune to slay the beast single-handed. Hannibal, however, fearing that the Romans should lose their dread of his elephants, if this brave man should return to relate his triumph, caused him to be murdered in cold blood.

In the military operations preceding the siege of Capua, we find the Carthaginians employing ele-

phants in large numbers *; and in the battle of Nola (B. C. 215) four elephants were slain and two captured by the Romans †. Then again came reinforcements from Carthage; and four years afterwards, Hannibal marched from Tarentum to the relief of Capua, leaving his heavy troops and baggage that his hasty progress to the succour of his beloved city might not be encumbered; but taking with him thirty-three elephants, who (says the historian) were as swift as his men and horses, their heavy carcases not sinking under the fatigues of a hasty march. During the succeeding four years, we constantly find a notice of the employment of the elephant by Hannibal in this sanguinary war. But the services of the animal were not confined to the soil of Italy. During the whole period in which Asdrubal had commanded the Carthaginians in Spain during the absence of his brother, the elephants of Africa were incessantly battling with the Roman legions. In the great fight with the two Scipios at Tortosa, Asdrubal was defeated, but he saved his elephants ‡. At Cordova, at Indibilis, at Munda, at Aurinx, large numbers of elephants were invariably left slain upon the fields of battle. At length Asdrubal fled to the Pyrennees, passed into Gaul, and crossed the Alps with horse and foot, and fifteen elephants, whose numbers were increased on his arrival in Italy (B. C. 207). In a few months the brave, but unfortunate Asdrubal fought the battle of the Metaurus. The Romans directed their masses of horse and foot against the dreaded elephants. Attacked on every side, they became furious, treading down their own battalions, and scattering destruction wherever they rushed in their ungovernable career. Asdrubal, with a knowledge which seems scarcely to belong to his time, had provided against this danger so generally consequent

* Livy, lib. xxiii. cap. 18. † Ibid. lib. xxiii., cap. 46.
‡ Ibid. lib. xxxiii.

upon the employment of elephants. Their drivers were provided with a knife and mallet, having received instructions to drive the knife between the junction of the head and spine of the animal should he become ungovernable *. Six were thus slaughtered by the division of the spinal marrow †. But neither the courage nor the skill of Asdrubal could stand up against the Roman legions. Distracted with the loss of his troops, he rushed into the midst of a battalion of the enemy, and died fighting single-handed against thousands.

The war was carried on by Hannibal in Italy with various success till Scipio invaded Africa. The fear of this invasion several years before had led the Carthaginians to make extraordinary exertions to repel their enemy; and Appian records that a number of elephants were taken in a very short time, to be trained for war. The rapidity with which this chase was executed proves that the elephants had not to be sought for at a great distance from Carthage, and that they were then common in Barbary; whereas they are now only found towards the river Senegal. Mago, the brother of Hannibal, about the time that Scipio descended on Africa, invaded Italy from Carthage with new forces; and drew up an immense front of elephants before the Roman cavalry at the battle of Insubria. But the Roman arms were again victorious ‡. Hannibal followed Scipio to Africa, and the two great generals met at Zama. In the front of Hannibal's line were eighty elephants, who carried destruction amongst the light-armed troops of Scipio; but the wary Roman ordered his cavalry to dismount, and directed all the power of his archers against the affrighted beasts.

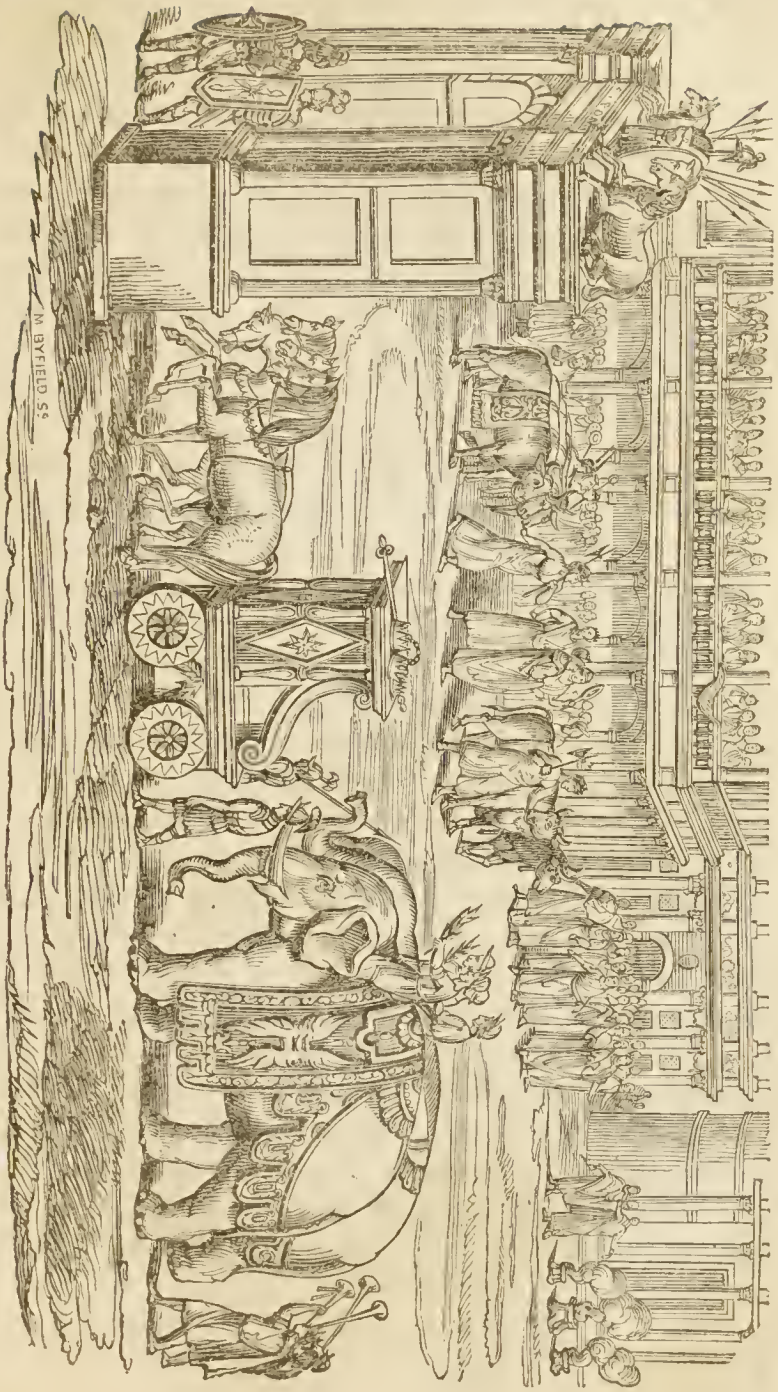
* Livy, book xxvii.

† See Blumenbach's Physiology, by Dr. Elliotson, page 217.

‡ Livy, lib. xxx. cap. 18.

The invariable consequences of a panic amongst the elephants again ensued;—Hannibal's right wing was broken by the confusion which his flying elephants produced. He retreated for refuge to Adrumetum; and the second Punic war was at an end (B. C. 201). By the treaty of peace the Carthaginians engaged to deliver up all their elephants of war, and never again to tame these animals for military service. Part of the elephants which Scipio had captured were sent to Rome to adorn his triumph. In his procession to the Capitol, after the sacrificial victims, came the Carthaginian elephants, no longer dreaded;—and Africa, the "fruitful mother of elephants," was humbled in the dust.

Roman Medallion of Africa.



Triumph of Scipio.

For a period of eighty years, during which the Romans had encountered elephants of war, and had often captured them in large numbers, they had never once attempted to employ them in their own armies. They had, however, as we have repeatedly seen, expressly adapted their military tactics to the discomfiture of these animals, seeking most wisely to render them as injurious to their enemies as to themselves. The Roman soldiers were taught to wound the proboscis, that sensitive instrument whose powers we have so fully described; horses clothed in mail were yoked to chariots, in which sat cuirassiers who thrust at the elephants with pikes of enormous length; other soldiers, especially opposed to the elephants, had spikes on every part of their armour to prevent the animal from seizing them with his trunk; light horsemen thrust him with their spears as they rushed by at full speed; slingers with stones fastened with cords to long poles assaulted the governor of the elephant; and carrobalistæ (instruments used to propel darts) poured upon the devoted beast their "iron sleet." The legions, too, were taught to make way for the charging elephant, and when he was fairly in the centre of their ranks to hem him round with numbers, against which even his mighty force was of no avail. Such were the defensive means, which the Romans employed, to resist this assailant, who seems to have performed the same service of breaking dense masses of troops as the artillery of modern warfare*. But the time at length arrived when Rome used them in her own armies. In the year after the power of Hannibal was broken at Zama, the first Macedonian war

* For full details of the Roman mode of combating elephants see Vegetius, lib. iii. c. 24.

commenced; and in the very earliest action, the African elephant was fighting as an auxiliary of his old enemy, the Roman spearman *. In the third year of that war, Titus Quintius Flaminius employed them with signal advantage against the troops of the King of Macedon, who could not stand up against this strange and formidable power †. In the second Macedonian war, about thirty years afterwards, Q. Martius Philippus used them against Perseus, the last King of Macedon. The unfortunate prince, whose great predecessor by his conquest of India had made Europe familiar with the power of the elephant, possessed none in his own army. His horses were terrified at the enormous animal, and he therefore, in some degree imitating the device of Semiramis, caused wooden elephants to be constructed containing a man, who with a kind of trumpet imitated that sound of rage which preceded the furious onslaught of the mighty quadruped ‡. His devices and his courage were equally fruitless: after a war of four years Macedonia became a Roman province.

In the period which intervened between the close of the first and the beginning of the second Macedonian war, the Roman arms were turned against Antiochus King of Syria. At the battle of Magnesia, the African elephant came into contest with the Indian, as had before been the case under the Ptolemies. The peaceful inhabitants of the marshy plains and pathless woods of two remote continents, separated from each other by seas and deserts, were brought together in hostile array by the restless passions of rival states. The African elephants of Scipio were found greatly inferior in height and

* Liv. lib. xxxi. c. 36. † Polybius.
‡ Polyænus, lib. iv. c. 20.

strength to the Indian ones of Antiochus. They were placed therefore in his rear, as a reserve. But neither man nor elephant could stand against the force of the Roman sword. Fifty thousand of the troops of Antiochus were killed or captured, and only fifteen elephants escaped alive on that day of slaughter *. The Romans enforced the same condition of peace, as they exacted of the Carthaginians. Antiochus engaged to deliver up his elephants and to train no more for war. His successor, however, must have violated this provision of the treaty; for in about twenty years after the battle of Magnesia we find him, as we have already described, leading his thirty-two elephants against Jerusalem. The history of Rome exhibits other instances of the anxiety of the republic to destroy the power of the elephant. In the war against Jugurtha (B. C. 111) the Romans killed and captured large numbers of the African elephants; till at length the Numidian King delivered up all that remained as a spoil to Metellus (B. C. 108.)

Julius Cæsar had, occasionally, the elephant in his armies; but he appears to have attached very little importance to their use. They were probably incumbrances to the rapidity of his marches; and were retained only to give encouragement to his soldiers where they were likely to be opposed by the same description of force, or to strike a panic into those nations who were unused to this mode of making war. Thus, in a battle with Scipio in Africa, although he was opposed by thirty elephants bearing towers of archers, he left his own elephant force in the rear of his line, and discomfited those of Scipio with his archers and slingers. Amongst the various medals that were struck in honour of the great dictator, there

* Livy, lib. xxxvii.

is one which represents his head, the reverse being a triumphal chariot drawn by four elephants. This medal is supposed to relate to the conquest of Juba and the Mauri in Africa. Another medal which was struck by the emperor Trajan in honour of Julius Cæsar, and which represents an elephant trampling upon a serpent, is supposed to have reference to the same event.

Cæsar has left us an anecdote in his African Commentaries which strikingly exhibits the mode in which the elephant was accustomed to fight. A wounded elephant, furious with rage, attacked an unarmed follower of the troops, and kneeling upon him crushed

the life out of his body. A veteran of the fifth legion rushed forward to attack the beast who was roaring and lashing with his proboscis. The elephant immediately forsook his victim; and, catching up the soldier in his trunk, whirled him in the air. But the intrepid warrior did not lose his presence of mind; he wounded the elephant in his sensitive proboscis, till, exhausted with pain, he dropped the soldier, and fled in terror to his companions.

Polyænus affirms that Cæsar carried a large armed elephant into Britain to inspire our insulated ancestors with a new terror. The circumstance seems to be very doubtful; as Cæsar himself makes no mention of it in his own commentaries. Polyænus appears to ascribe extraordinary virtue to such a demonstration of power, for he says, "a victory was gained by Cæsar, in a battle with the Gauls, by a single elephant*." Dion affirms that the emperor Claudius employed the same force in his invasion of Britain nearly a century afterwards. Our own Milton has received the statement as worthy of belief:—

"He who waited ready with a huge preparation, as if not safe enough amidst the flower of all his Romans, like a great eastern king with armed elephants, marches through Gallia. So full of peril was this enterprise esteemed, as not without all this equipage, and stranger terrors than Roman armies, to meet the native and the naked British valour defending their country†."

Antiquarian writers, who have examined the subject with an attention somewhat disproportioned to its real importance, appear to agree that although there are many medals existing representing Julius Cæsar and his immediate successors drawn in chariots by ele-

* Lib. viii.

† Milton's History of England, book ii.

phants, the Roman princes were not accustomed to grace their triumphs by this parade, until the time of Alexander Severus. In the triumph of Cæsar for his victories in Gaul, elephants were used as bearers of torches to illuminate the procession which took place at night. This was in the last day of the triumph, when Cæsar went home after supper crowned with flowers, and receiving the almost idolatrous incense of a shouting multitude *.

——————"Twas night; but now
A thousand torches, turning night to day,
Blazed, and the victor, springing from his seat,
Went up, and kneeling, as in fervent prayer,
Entered the Capitol." *Rogers's Italy.*

In his African triumph, the spoils of war were exhibited upon chariots of ivory; and the whole apparatus of the pomp had reference to elephants †. Pompey, upon his return from his victories in Africa, was drawn in a chariot by four elephants to the gates of Rome. But the pride of the conqueror was limited by natural obstacles. The triumphal arch was too narrow to admit the unaccustomed pomp; and the victor was obliged to descend and resort to the humbler exhibitions with which Rome had been familiar ‡. The ridicule which must have been thrown upon Pompey on account of this remarkable failure (for a highly luxurious people never fail to cultivate that spirit which makes the satire of the great a very general pleasure) may have deterred the earlier emperors, prodigal as were the senate and the people of every ostentation that could pamper their bloated pride, from the repetition of such an unfortunate experiment. When, however, more than two centuries after Pompey, the Roman arms were directed against

* Suetonius, and Dion. † See p. 344.
‡ Plutarch; "Pompey."

the Persians, the emperors became imitators of oriental splendour in their triumphs; and the elephant-chariot was not unfrequently seen at Rome, bearing the conqueror, who was surrounded by all the magnificence which might command the popular adulation. It is unnecessary to trace these ceremonials with antiquarian minuteness, particularly as we have a description, from the eloquent pen of Gibbon, of the triumph of Aurelian (A.D. 274) after his conquest of Palmyra, which may shew the nature of these spectacles, so gratifying to the pride of Rome and so humiliating to the vanquished nations whom she insulted in the haughty spirit which had so long rendered her supremacy odious:—"The pomp was opened by twenty elephants, four royal tigers, and above two hundred of the most curious animals from every climate of the north, the east, and the south. They were followed by one thousand six hundred gladiators, devoted to the cruel amusement of the amphitheatre. The wealth of Asia, the arms and ensigns of so many conquered nations, and the magnificent plate and wardrobe of the Syrian Queen, were disposed in exact symmetry or artful disorder. The ambassadors of the most remote parts of the earth, of Æthiopia, Arabia, Persia, Bactriana, India, and China, all remarkable by their rich or singular dresses, displayed the fame and power of the Roman emperor, who exposed likewise to the public view the presents that he had received, and particularly a great number of crowns of gold, the offerings of grateful cities. The victories of Aurelian were attested by the long train of captives who reluctantly attended his triumph,—Gauls, Vandals, Sarmatians, Alemanni, Franks, Goths, Syrians, and Egyptians. Each people was distinguished by its peculiar inscription, and the title of Amazons was bestowed on ten martial heroines of the Gothic nation, who had been taken in arms. But every eye, disregarding the

crowd of captives, was fixed on the Emperor Tetricus, and the Queen of the East. The former, as well as his son, whom he had created Augustus, was dressed in Gallic trowsers, a saffron tunic, and robe of purple. The beauteous figure of Zenobia was confined by fetters of gold; a slave supported the gold chain which encircled her neck, and she almost fainted under the intolerable weight of jewels. She preceded on foot the magnificent chariot in which she once hoped to enter the gates of Rome. It was followed by two other chariots, still more sumptuous, of Odenathus and of the Persian monarch. The triumphal car of Aurelian (it had formerly been used by a Gothic king) was drawn, on this memorable occasion, either by four stags or by four elephants*."

Although the Cæsars abstained from using elephants to bear them in triumphal chariots to the Citadel, the honours of the quadruped were not wanting to these rulers of Rome. Such homage was often paid during their lives, and sometimes it was posthumous. The senate voted Augustus a triumphal arch, a chariot drawn by two elephants, and a statue,—which circumstance is recorded in the following medal.

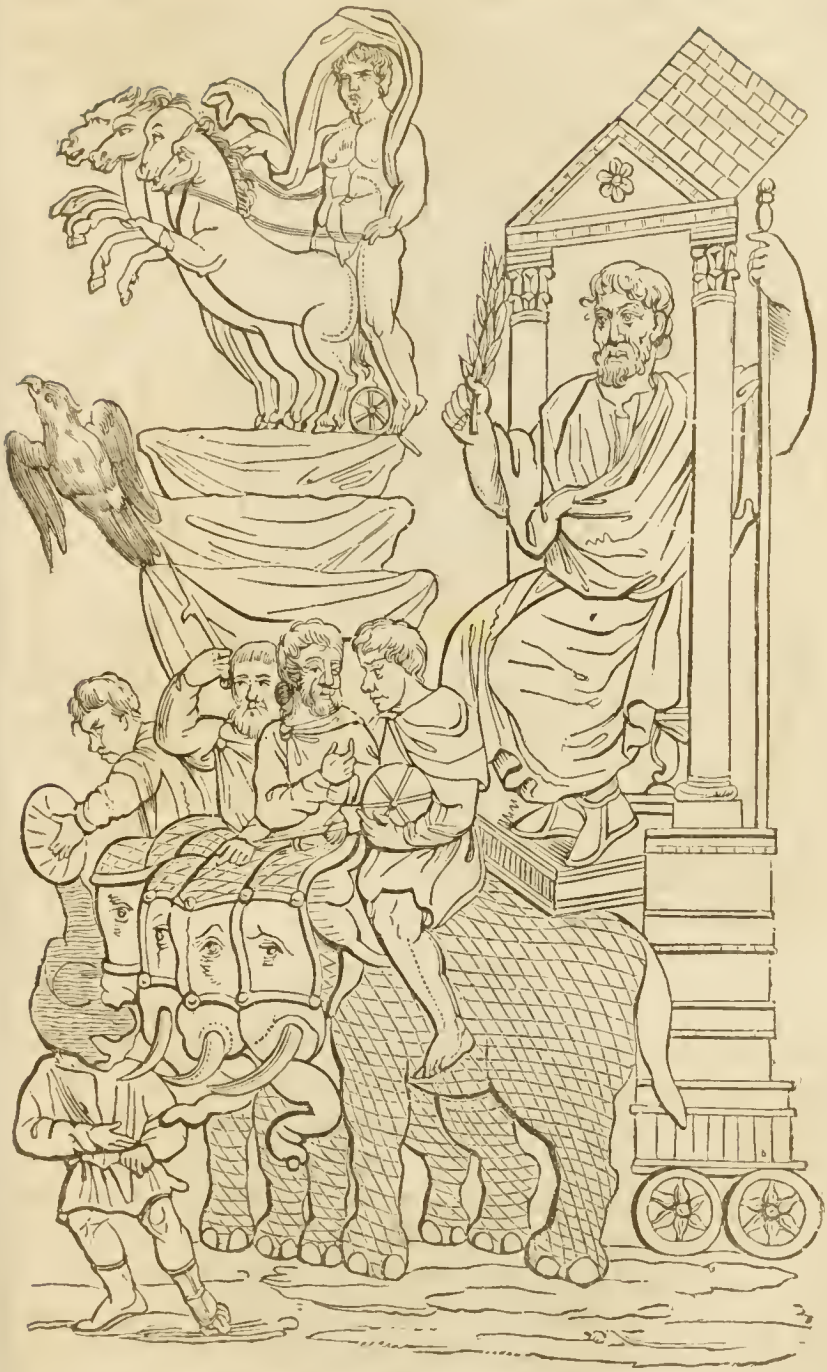
* Decline and Fall, chap. xi.

After the death of Augustus, his statue was drawn in a chariot by four elephants to the Circus, when the games commenced; and this post-funereal honour was also celebrated by a medal.

It appears to have been customary to open the games with some such striking procession. There is an ancient bas-relief described by Montfaucon, which is supposed to represent the statue of Romulus drawn by elephants in a chariot to the Circus, at the commencement of the Quirinal games, which were annually held in honour of the founder of Rome*.

In their decrees of triumphs to the emperors, the senate had little regard to the virtues of the princes

* See Montfaucon, Supp. tom. iii. p. 220.



Bas-relief, representing Romulus drawn by Elephants.

whom they flattered. Their homage, as amongst other patrician bodies in later times, was extorted by power alone. The senate voted Caligula a chariot drawn by elephants. The following medal represents the tyrant

sitting as a God, surrounded by stars. This disgusting servility was not exaggerated on the coin, for the Romans saluted him by the title of Jupiter Latialis, raised a temple to his honour, and appointed priests to perform his sacrifices.

Nero and his mother Agrippina, equally worthless and despicable, received the same honour of an elephant-chariot.

After the subjection of the Carthaginians and of the kings of Asia to the power of the republic, and after the civil contests of Cæsar and Pompey were at an end, elephants of battle appear to have almost entirely fallen into disuse in the Roman armies. The emperors, however, occasionally encountered them in their African and Eastern wars; and Africa continued to be personified as a female wearing the head-skin of an elephant. The following medal was struck in the reign of Antoninus Pius, to celebrate a victory.

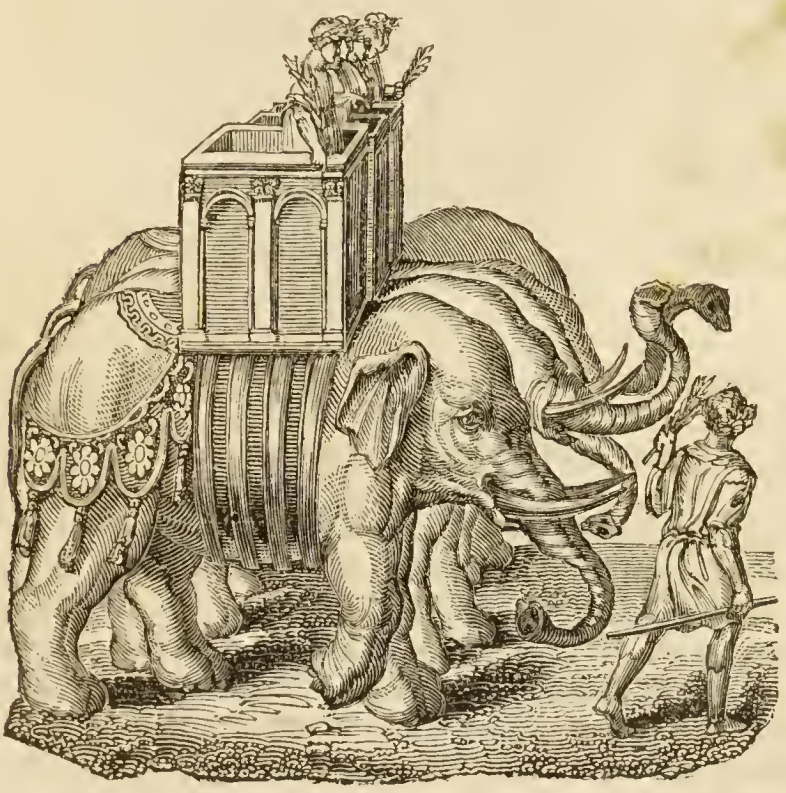
But although elephants were scarcely used in battle by the Romans, after the establishment of the imperial government, they doubtless continued abundant within the city; and on one occasion it appeared probable that the animal would again be actively employed in war. When Didius Julianus was about to take the field against Septimius Severus, Rome was filled with horses and elephants for service (A. D. 193). In the great battle between Alexander Severus and Artaxerxes (A. D. 230), three hundred

elephants were captured from the Persians, of which the emperor conveyed a number to Rome; and it was on this occasion that the chariot of Severus was drawn by elephants. During, however, a period of more than five centuries, the brutal sports of the Circus occasioned a greater destruction of the animal than the most profuse waste of the Roman wars. But this practice gradually fell into disuse; and at length, in the time of Justinian (A. D. 527), an elephant was esteemed a wonder both at Rome and Constantinople *. In Africa, also, the animal was once more left to wander amidst his native forests unmolested, except by the negro who required ivory for his armlets; till in process of time the modes by which the Carthaginians had trained their elephants of war became utterly unknown, and the African species was believed incapable of the discipline which still subjects the Indian to the use of man. A wandering population of Arabs spread over the fairest parts of Africa, to whose rapid movements in a pastoral life the elephant would have been worse than useless; while the camel conducted the commercial intercourse of the Moors with the Mussulman nations of Asia. Thus it is that the destinies of man so essentially modify those of the inferior animals; and that the revolutions of civilization produce physical changes, sometimes even more striking, because more rapid, than the ordinary processes of decay and renovation which Nature exhibits.

In the next chapter we shall endeavour to present a general view of the Roman amphitheatre, in which elephants were largely employed for the gratification of the patricians as well as the plebeians of Rome. The subject altogether forms a curious chapter in the

* See chapter i. p. 6.

history of man ; and as we may probably have occasion often to refer to it in the course of " The Menageries," we shall notice it here more fully than may be considered strictly to belong to the history of the elephant.



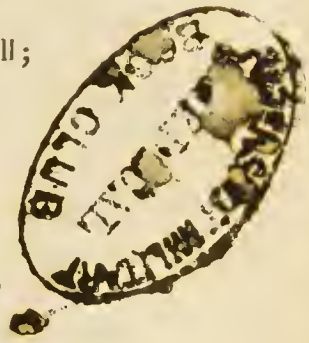
Chapter XII.

THE ROMAN AMPHITHEATRE.

The history of the Amphitheatre is intimately connected with the history of the moral habits and the political condition of the Roman people. When the elephants of Metellus were driven by slaves around the Circus, the exhibition appears to have been devised, not to gratify the cruel passions of the populace, but to destroy those terrors which were unworthy of the Roman name. But when five thousand wild beasts of all kinds were slaughtered at the dedication of the Colosseum of Vespasian, and eighty thousand spectators, looking down securely from their marble seats, shouted with a ferocious joy at the dying agonies of the mangled victims, the Roman courage was gone; the Roman liberty was trampled upon; public magnificence and private

wretchedness went hand-in-hand; the purpled senator and the ragged citizen were equally corrupted and degraded by a brutal despotism. Milton, who better, perhaps, than any man, had seen the indissoluble connexion between manners and government, has thus described the Romans under Tiberius:—

"That people, victor once, now vile and base,
Deservedly made vassal; who, once just,
Frugal, and mild, and temp'rate, conquer'd well;
But governed ill the nations under yoke,
Peeling their provinces, exhausted all
By lust and rapine; first ambitious grown
Of triumph, that insulting vanity;
Then cruel, by their sports to blood inured
Of fighting beasts, and men to beasts exposed;
Luxurious by their wealth, and greedier still,
And from the daily scene effeminate*."



For four centuries this "daily scene" of despicable cruelty went forward, with a prodigality of expense that might have bestowed knowledge and comfort and independence upon the starving and ignorant populace, who crowded to these frightful sports. But it was the policy of their rulers to keep them poor and profligate, ignorant and ferocious, ragged and tumultuous; captivated by shows, and reckless of the solid enjoyment of which those very shows deprived them. At length "the tremendous sound of the Gothic trumpet" was heard at the gates of the imperial city. The golden porches and the ivory pillars of the Amphitheatre of Vespasian were given up to the rapine of the barbarians; the very clamps of iron and brass that held together the ponderous stones of that wonderful edifice were removed by the plunderers; and succeeding generations went thither as to a quarry to find the materials of their temples and their palaces. Yet the

* Paradise Regained, book iv.

"enormous skeleton" still stands, to show what prodigious works may be raised by the skill and perseverance of man, and how vain are the mightiest displays of his power when directed towards objects which are unsuited to advance his capacity for knowledge and for virtue.

Those exhibitions of the Circus which consisted of the combats of wild beasts with each other, originated in the desire of the rulers of Rome to flatter the vanity of the people, by displaying to them the wonders of distant regions which had submitted to the arms of the republic. Pliny states that Mutius Scævola (B. C. 102) was the first who exhibited a combat of lions in the Circus. It is said that C. Scipio Nasica and C. Lentulus were the first who introduced combats between beasts and armed men; and that lions, bears, and other quadrupeds of prey were let loose in the arena to fight with slaves and convicts*. Lucian states that the same brutal practice was pursued at Athens in the time of Solon. When Sylla found it necessary to purchase the suffrages of the people by arts, which were more powerful with the vain multitude than the fame of his great exploits, he availed himself of that love of brutal sports which had become a confirmed passion with the Romans. He procured a hundred lions from Mauritania, as well as men who were accustomed to fight them; and thus the desire to see human blood flow became a new excitement, till at length,

> ———"The buzz of eager nations ran,
> In murmur'd pity, or loud-roar'd applause,
> As man was slaughter'd by his fellow man†."

It was the policy of the growing factions of Pompey and Cæsar to vie with each other in the magnificence of the exhibitions of the Circus. Pompey, at the dedication of his theatre, exhibited an almost in-

* Livy, lib. xliv. † Childe Harold, canto iv.

credible number of lions (five hundred, according to some authorities), and eighteen elephants, fighting with each other, and with armed men. It would appear from a passage in Seneca, in which the philosopher speaks with indignant reprehension of such cruel sports, that Pompey was the first who introduced men into the arena as combatants with elephants. The humiliating exhibition of the elephants of Metellus could scarcely be considered as a similar fight, for they were doubtless trained to display the timidity of habitual obedience. Previous to the exhibition of elephants by Pompey, they had fought in the Circus with each other, and with bulls*. In the second consulate of Pompey (B. C. 54), a number of elephants were opposed in the Circus to Getulian archers; and this exhibition, according to Pliny, seems to have been distinguished by several remarkable circumstances. One of the elephants, although furious from a wound, is recorded to have seized upon the shields of his adversaries, and to have thrown them in the air with a peculiar movement, doubtless the effect of training, which caused the shields to whirl round before their fall to the earth†. On this occasion, too, an elephant having been killed by a single blow of a javelin through his eye, his fellows rushed forward in a general charge to save him, and coming with great force against the iron railings of the Circus, broke them down and injured several of the spectators. The elephants, however, were soon completely at the mercy of their practised assailants; and the historian Dion adds a description of a wonder no less honourable to the Roman people

* Pliny, lib. viii. cap. vii.

† The passage in Pliny runs thus: abrepta scuta jaciens in sublime, quæ decidentia voluptati spectantibus erant in orbem circumacta, veluti arte." The French translation of Pliny describes the movement in three words, for which we have no adequate English expression: "Retomber en pirouettant."

than to the sagacity of the elephants. The spectators, he says, so compassionated the animals when they saw them raising their trunks to heaven, roaring most piteously, as if imploring the Gods to avenge the cruel treachery which had compelled them to come from their native forests, that they demanded that they should be saved. Pliny, relating the same story, states that the populace were so touched by the terror which the elephants exhibited, and so full of admiration at their sagacity, that, regardless of the presence of Pompey, and forgetful of his munificence, they rose from their seats and demanded, with imprecations against the Consul, that the combat should be at an end. But habit appears soon to have reconciled the people to the torturing cruelties of the amphitheatre,

"where murder breathed her bloody steam."

We have no other recorded instance of their clemency towards beasts; and too often, when the exhausted gladiator tottered towards the edge of the arena, to supplicate his life from the spectators, the remorseless rabble turned down their thumbs * as the signal for the final butchery, and the "genial laws" of the Circus were upheld at no less cost than the universal debasement of a mighty nation.

In the games of Pompey a rhinoceros was exhibited for the first time; and this quadruped subsequently became a favourite excitement to the passions of the Circus. Martial has thus described his fight with the bear:

"Sollicitant pavidi dum Rhinocerota magistri,
Seque diu magnæ colligit ira feræ.
Desperabantur promissi prælia Martis,
Sed tamen iis rediit cognitus ante furor.

* See Notes to Childe Harold, Canto iii. note 61. Probably something else is meant by this turning down of thumbs, beyond what the words literally import

Namque gravem gemino cornu sic extulit ursum,
Jactat ut impositas taurus in astra pilas *."

The games given by Cæsar, during his dictatorship, were rendered attractive to the people, as those of Pompey had been, by the combats of elephants. "When Cæsar, the conqueror of the world," says Velleius Paterculus, "returned to the city, he forgave all who had borne arms against him (which passes all human belief†), and exhibited ship-fights and contests of horse and foot, together with elephants ‡." On this occasion the spectators were well secured, by ditches which surrounded the arena, from the charges of the infuriated beasts, who had annoyed them considerably at the games of Pompey. In these sports of the Great Dictator twenty elephants were opposed to five hundred men on foot. Amongst the other spoils which the conquered deserts of Africa had afforded him, Cæsar exhibited the camelopard.

The immense supplies of untamed animals which the confirmed love of the sports of the Circus demanded, could not be obtained without a prodigal expenditure and constant anxiety on the part of the government of Rome. The people, never satiated with such exhibitions, demanded them as the price of their obedience to the respective factions who courted or compelled their homage. Cœlius, the

* While the trembling directors of the games provoke the dormant fury of the rhinoceros, and the wrath of the mighty beast is rising, the promised combat was despaired of; but his former habitual ferocity returns, and he tosses on high with his double horn the heavy bear, as the bull flings into the air the stuffed image with which he is exercised. The expression "gemino cornu" is difficult to understand. The rhinoceros was known as a one-horned animal by the ancients. Pliny describes him as "unius in nare cornu."

† The surprise of the historian at the clemency of Cæsar is not very complimentary to the Roman magnanimity.

‡ Vel. Pat. lib. ii. cap. 6.

ædiel, writing to Cicero, then pro-consul of Cilicia, expressly charges him to procure, at any risk or cost, a number of panthers for the next games; to which mandate Cicero replies, that all possible exertions had been made by the hunters, but that these animals were unusually scarce, and that he had been obliged to send into Caria to procure some *. We thus see that it was a part, and a very considerable one, of the Roman machinery of state, to keep the popular appetite for slaughter incessantly supplied. Brutus, after the assassination of Cæsar, during his absence from Rome, ordered the games to be conducted with the splendour to which the people had been accustomed; and he was compelled to abstract a considerable sum from his slender means of carrying on the war of liberty, to purchase "a great number of strange beasts, of the which he would not give one of them to any friend he had, but that they should all be employed in his games †." Augustus, having the riches of the world at his command, crowded the Circus at the solemnization of the games with wild beasts from every country. The conquest of Egypt offered new stimulants to the popular curiosity. Snakes of enormous magnitude were exhibited in the Comitium, and at one time thirty-six crocodiles were killed in the Flaminian Circus. Claudian, who, four centuries after, described the waste of animal life, during the long period when the Roman power tore every beast from its native desert, has painted the terrors which the seamen of Rome felt as they passed over the waters with their strange cargo:

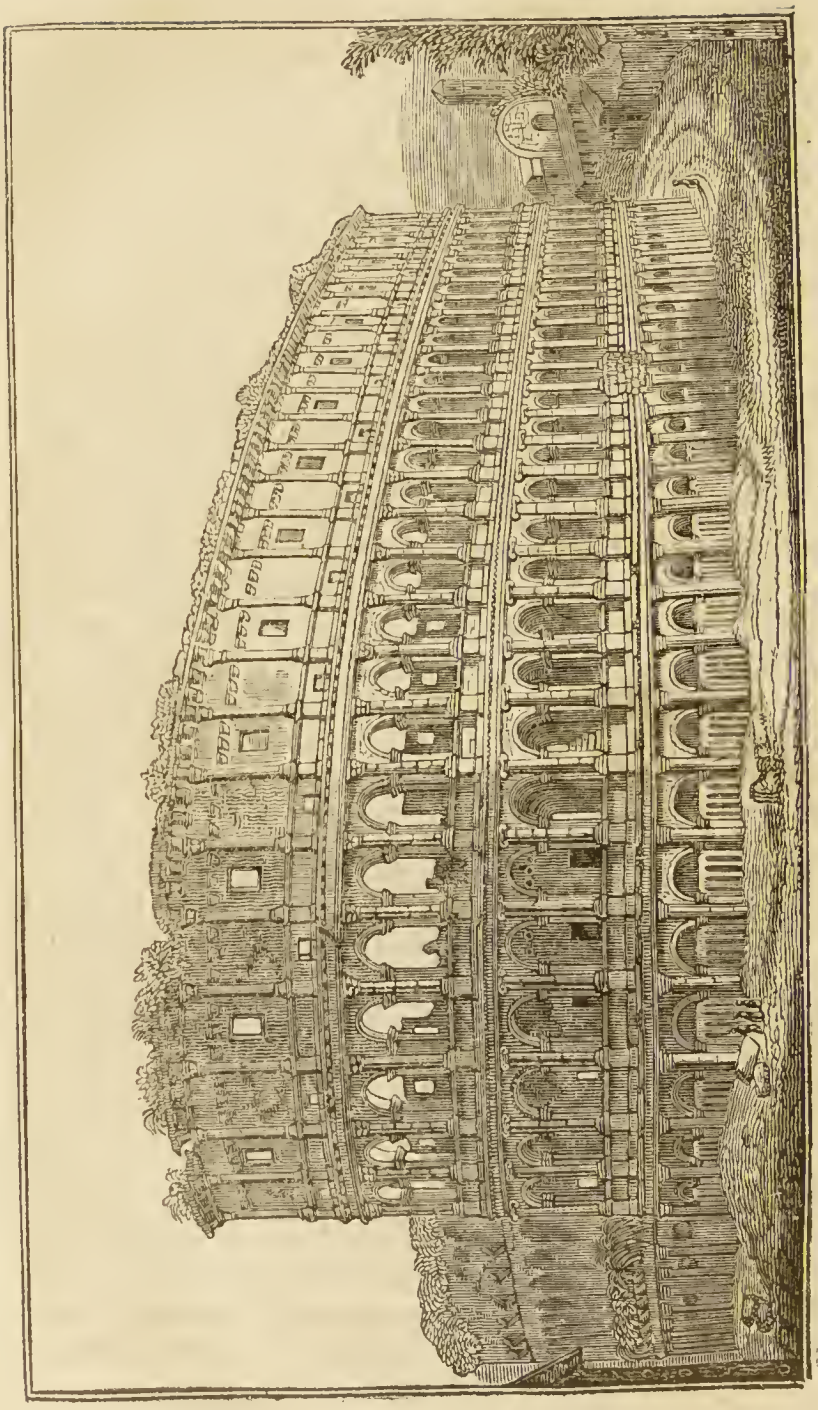
> "The fainting slave let fall his trembling oar,
> And the pale master feared the freight he bore."

When the imperial power was firmly established,

* Cicero, Fam Epis. lib. ii. ep. 11.
† Plutarch; "Brutus." North's translation.

and the Cæsars were at liberty to indulge their private lusts with a profuseness of expenditure which surpasses the calculations of all modern luxury, and to display their public magnificence with a prodigality which leaves the feeble despots of later days immeasurably behind them in the splendour of their wickedness, the sports of the amphitheatre were conducted upon a scale to which the Consuls of the republic had scarcely dared to aspire. Caligula, on his birth-day, gave four hundred bears, and as many other wild beasts, to be slain; and on the birth-day of Drusilla, he exhibited these brutal spectacles, continued to the succeeding day on a similar scale *. Claudius instituted combats between Thessalian horsemen and wild bulls; and he also caused camels to fight for the first time with horses. Invention was racked to devise new combinations of cruelty. Many of the emperors abandoned themselves to these sports with as passionate an ardour as the uncultivated multitude. Sensuality debases as much as ignorance, because it is ignorance under another name. Claudius rose at daylight to repair to the Circus, and frequently remained, that he might not lose a single pang of the victims, while the people went to their afternoon meal. Sometimes, during the reigns of Claudius and Nero, an elephant was opposed to a single fencer; and the spectators were delighted by the display of individual skill. Sometimes, hundreds and even thousands of the more ferocious beasts were slaughtered by guards on horseback; and the pleasure of the multitude was in proportion to the lavishness with which the blood of man and beast was made to flow. The passion for these sports required a more convenient theatre for its gratification than the old Circus. The Colosseum was commenced by Vespasian, and completed by Titus (A.D. 79). This

* Dion. lib. lix.



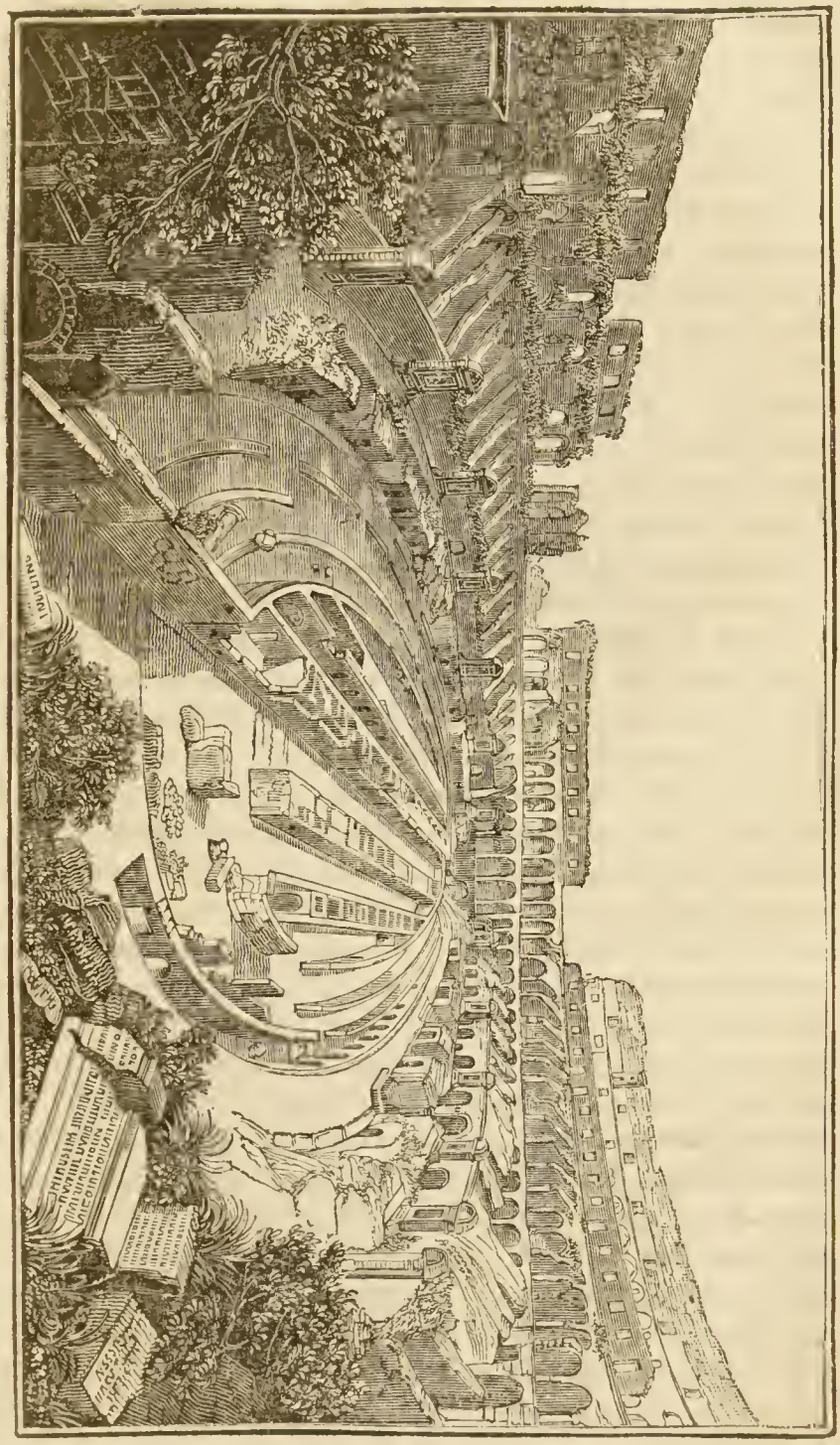
Exterior View of the Colosseum of Vespasian.

enormous building occupied only three years in its erection. Cassiodorus affirms that this magnificent monument of folly cost as much as would have been required for the building of a capital city. We have the means of distinctly ascertaining its dimensions and its accommodations from the great mass of wall that still remains entire; and we may not improperly bestow a few pages upon its description. Such a building can never again appear in the world, because mankind have learned that the expenditure of princes upon useless monuments to their own pride and power, can only be wrung from the hard labours of the people themselves; and that the wealth thus diverted from the channels of usefulness, perpetuates the abuses of misgovernment, and at the same time impedes the progress of the many in knowledge and comfort. Public happiness and the ostentation of despotism cannot exist together.

The Colosseum, which is of an oval form, occupies the space of nearly six acres. "It may justly be said to have been the most imposing building, from its apparent magnitude, in the world; the pyramids of Egypt can only be compared with it in the extent of their plan, as they cover nearly the same surface*." The greatest length, or major axis, is 620 feet; the greatest breadth, or minor axis, 513 feet. The outer wall is 157 feet high in its whole extent. The exterior wall is divided into four stories, each ornamented with one of the orders of architecture. The cornice of the upper story is perforated for the purpose of inserting wooden masts, which passed also through the architrave and frieze, and descended to a row of corbels immediately be-

* The Architectural Antiquities of Rome, by E. Cresy and G. L. Taylor: a work of equal accuracy and splendour, to which we are indebted for the subsequent details of the arrangements of the building.

low the upper range of windows, on which are holes to receive the masts. These masts were for the purpose of attaching cords to, for sustaining the awning which defended the spectators from the sun or rain. Two corridors ran all round the building, leading to staircases which ascended to the several stories; and the seats which descended towards the arena, supported throughout upon eighty arches, occupied so much of the space that the clear opening of the present inner wall next the arena is only 287 feet by 180 feet. Immediately above and around the arena was the podium, elevated about twelve or fifteen feet, on which were seated the emperor, senators, ambassadors of foreign nations, and other distinguished personages in that city of distinctions. From the podium to the top of the second story were seats of marble for the equestrian order; above the second story the seats appear to have been constructed of wood. In these various seats eighty thousand spectators might be arranged according to their respective ranks; and indeed it appears from inscriptions, as well as from expressions in Roman writers, that many of the places in this immense theatre were assigned to particular individuals, and that each might find his seat without confusion. The ground was excavated over the surface of the arena in 1813; a great number of substructions were then discovered, which by some antiquaries are considered to be of modern date, and by others to have formed dens for the various beasts that were exhibited. The descriptions which have been left by historians and other writers of the variety and extent of the shows, would indicate that a vast space and ample conveniences were required beneath the stage, to accomplish the wonders which were, doubtless, there realized in the presence of assembled Rome. We subjoin, from Messrs. Cresy and Taylor's work, an interior view,



Interior View of the Colosseum of Vespasian.

looking west, taken at the time when the arena was so excavated. It has since been filled up. We have also given an external view of this remarkable building, as it existed in the time of Piranesi *.

It would be unnecessary to attempt a description of the splendours of the Colosseum, and the scenes which it exhibited from the time of Titus to that of Honorius, while two celebrated pictures of these marvels exist, from authors of very different characters of excellence. Gibbon, in his twelfth chapter, has embodied, with his usual power of expression, those passages of Calpurnius, and of other ancient writers, which represent this extraordinary building and the pomp which its walls disclosed; but he acknowledges his obligations to Montaigne, who, says the historian, "gives a very just and lively view of Roman magnificence in these spectacles." Our readers will, we doubt not, be gratified by the quaint but most appropriate sketch of the old philosopher of France:—

"It was doubtless a fine thing to bring and plant within the theatre a great number of vast trees, with all their branches in their full verdure, representing a great shady forest, disposed in excellent order, and the first day to throw into it a thousand ostriches, a thousand stags, a thousand boars, and a thousand fallow deer, to be killed and disposed of by the people: the next day, to cause an hundred great lions, an hundred leopards, and three hundred bears to be killed in his presence: and for the third day, to make three hundred pair of fencers to fight it out to the last,—as the Emperor Probus did. It was also very fine to see those vast amphitheatres, all faced with marble without, curiously wrought with figures and statues, and the inside sparkling with rare decorations and enrichments,

'Baltheus en gemmis, en illita porticus auro †;'

* See p. 306. † Calpurnius, Ec. 7.

'Behold a belt with jewels glorious made,
And a brave portico with gold o'erlaid;'

all the sides of this vast space filled and environed from the bottom to the top, with three or fourscore ranks of seats, all of marble also, and covered with cushions,

——————— 'exeat, inquit,
Si pudor est, et de pulvino surgat equestri,
Cujus res legi non sufficit*,'—

'Get y' out, whose means fall short of law, one cries:
For shame, from off the noble cushion rise†,'—

where an hundred thousand men might sit placed at their ease; and, the place below, where the plays were played, to make it by art first open and cleft into chinks, representing caves that vomited out the beasts designed for the spectacle; and then secondly, to be overflowed with a profound sea, full of sea-monsters, and loaded with ships of war, to represent a naval battle: and thirdly, to make it dry and even again for the combats of the gladiators; and for the fourth scene, to have it strew'd with vermillion and storax, instead of sand, there to make a solemn feast for all that infinite number of people—the last act of one only day.

———— 'Quoties nos descendentis arenæ
Vidimus in partes, ruptaque voragine terræ
Emersisse feras, et iisdem sæpe latebris
Aurea cum croceo creverunt arbuta libro.
Nec solum nobis silvestria cernere monstra
Contigit, æquoreos ego cum certantibus ursis
Spectavi vitulos, et equorum nomine dignum,
Sed deforme pecus‡.'

'How often, when spectators, have we seen
One corner of the theatre sink in;

* Juven. Sat. 3. † Sir Robert Stapleton. ‡ Calpurnius, Ec. 7.

And from a dreadful chasm in the earth
Vomit wild beasts; then presently give birth
Unto a glittering grove of golden bowers,
That put forth blossoms of enamell'd flowers.
Nor yet of sylvan monsters had we sight
Alone. I saw sea-calves with wild bears fight,
And a deformed sort of monsters came,
Which, by their shape, we might sea-horses name.'

"Sometimes they have made a high mountain advance itself, full of fruit-trees and other flourishing sorts of woods, sending down rivulets of water from the top, as from the mouth of a fountain: other whiles, a great ship was seen to come rolling in, which opened and divided of itself; and after having disgorged from the hold four or five hundred beasts for fight, closed again, and vanished without help. At other times, from the floor of this place, they made spouts of perfumed waters dart their streams upward, and so high as to besprinkle all that infinite multitude. To defend themselves from the injuries of the weather, they had that vast place one while covered over with purple curtains of needle-work, and by and by with silk of another colour, which they could draw off or on in a moment, as they had a mind.

'Quamvis non modico caleant spectacula sole,
Vela reducuntur cum venit Hermogenes.'

'The curtains, tho' the sun does scorch the skin,
Are, when Hermogenes appears, drawn in.'

The net-work also that was set before the people to defend them from the violence of these turned out beasts, was also woven of gold.

——— 'Auro quoque torta refulgent
Retia *.'

'And woven nets refulgent are with gold †.'

* Calpurnius, Ec. 7.
† Montaigne's Essays, translated by Cotton, book iii. chap. 6.

"If there be anything excusable in such excesses as these," continues Montaigne, "it is where the novelty and invention create more wonder than expense." Fortunately for the real enjoyments of mankind, even under the sway of a Roman despot, 'the novelty and invention' had very narrow limits when applied to matters so utterly unworthy and unintellectual as the cruel sports of the amphitheatre. Probus, indeed, transplanted trees to the arena, so that it had the appearance of a verdant grove; and Severus introduced four hundred ferocious animals in one ship sailing in the little lake which the arena formed. This was a rare exercise of invention: and it was commemorated accordingly in a medal, whose inscription bore that the pageant of Severus was the "joy of the times."

But on ordinary occasions, profusion,—tasteless, haughty, and uninventive profusion,—the gorgeousness of brute power, the pomp of satiated luxury—these constituted the only claim to the popular admiration. If Titus exhibited five thousand wild beasts at the dedication of the amphitheatre, Trajan bestowed ten thousand on the people at the conclusion of the Dacian war. If the younger Gordian collected together bears, elks, zebras, ostriches, boars, and wild horses, he was an imitator only of the spectacles of Carinus, in which

the rarity of the animals was as much considered as their fierceness. Gibbon has well remarked, "While the populace gazed with stupid wonder on the splendid show, the naturalist might indeed observe the figure and properties of so many different species, transported from every part of the ancient world into the amphitheatre of Rome. But this accidental benefit, which science might derive from folly, is surely insufficient to justify such a wanton abuse of the public riches." The prodigal waste of the public riches, however, was not the weightiest evil of the sports of the Circus. The public morality was sacrificed upon the same shrine as its wealth. The destruction of beasts became a fit preparation for the destruction of men. A small number of those unhappy persons who engaged in fight with the wild animals of the arena, were trained to these dangerous exercises, as are the matadors of Spain at the present day. These men were accustomed to exhaust the courage of the beast by false attacks; to spring on a sudden past him, striking him behind before he could recover his guard; to cast a cloak over his eyes, and then despatch or bind him at this critical moment of his terror; or to throw a cup full of some chemical preparation into his gaping mouth, so as to produce the stupefaction of intense agony. But the greater part of the human beings who were exposed to these combats, perilous even to the most skilful, were disobedient slaves and convicted malefactors. The Christians, during their persecutions, constituted a very large number of the latter class. The Roman power was necessarily intolerant; the assemblies of the new religion became objects of dislike and suspicion; the patience and constancy of the victims increased the fury of their oppressors; and even such a man as the younger Pliny held that their obstinacy alone was

deserving of punishment. Thus, then, the imperial edicts against the early Christians furnished more stimulating exhibitions to the popular appetite for blood, than the combat of lion with lion, or gladiator with gladiator. The people were taught to believe that they were assisting at a solemn act of justice; and they came therefore to behold the tiger and the leopard tear the quivering limb of the aged and the young, of the strong and the feeble, without a desire to rescue the helpless, or to succour the brave.

"The emperors," says Montaigne, "excused the superfluity of their plays and public spectacles, by reason that their authority did, in some sort, (at least in outward appearance,) depend upon the will of the people of Rome; who, time out of mind, had been accustomed to be entertained and caressed with such shows and excesses." There is no difficulty in perceiving that if the Roman government had been conducted upon a just and reasonable principle of regard for the rights of all,—that is, if it had been a free government,—such excesses could never have been committed. The government of Rome knew well that in the provinces the sports of the amphitheatre were intended to reconcile the people to the oppression of their governors. "The emperor," says Tacitus, "issued an edict, that no procurator, or any other magistrate, who had obtained a charge in any province, should exhibit a spectacle of gladiators or wild beasts, nor of any other popular entertainment whatsoever; for, before this, they had, by such acts of munificence, no less afflicted those under their jurisdiction, than by plundering them of their money; whilst, under the influence of such court to the multitude, they sheltered their arbitrary delinquencies and rapine." But what was checked abroad upon a small scale was thought necessary at home

upon a large one; and apologists were not wanting to justify the abuse. Some of the ancient defenders of the cruelties of the arena have held that they were necessary to keep up that courageous spirit which had made Rome the mistress of the world. But the truth is, that they were expressly adapted to deaden and destroy that spirit by which the real courage of a nation is best displayed—the spirit of resistance to oppression. It was easy for the sophists of Rome to write that the combats of elephants and bulls, of tigers and bears, maintained that popular temper that kept the Goth far away from the city gates. But had the institutions of Rome been such as to raise up the plebeian class into importance and respectability, by a more equal distribution of the national wealth, the Goth would never have dared to have brought the weakness of barbarism into hostile contact with the strength of civilization. It is the common belief that Rome fell through her luxury. But if we regard the number of the luxurious, we may come to perceive that the few only were directly corrupted by the possession of too much wealth, while the many were weakened by the destitution of those means which constitute a happy and therefore a strong population. Between the brutal sensualities of the patricians of Rome, and the miserable degradation of her domestic slaves, there was no large class of productive citizens, acquiring independence by their labour, and feeling that the sources of their enjoyments, and the securities for their continuance, were not to be bestowed or to be cut off at the will of emperors and senators. But there was a populace, idle and dissipated, turbulent and slavish, proud and abject, vain as Romans, creeping as men. While the privileged orders poured the spoils of the world into their coffers, and wrung from industry a much

larger share of the fruits of the earth than the possession of the soil would justly entitle them to command, they could afford to bestow upon the hungry plebeians donatives of bread and wine,—to flatter their vanity by the costly exhibitions of the amphitheatre,—to build marble baths, into which perpetual streams of tepid water flowed from silver fountains, "where the meanest Roman could purchase with a small copper coin the daily enjoyment of a scene of pomp and luxury which might excite the envy of the kings of Asia*." But this was not public happiness. In the crowded dwellings of the city the wives and children of the plebeians were suffering every privation, amidst which human nature loses the last prop of virtue, self-respect. They were scantily fed; and the science of modern days was not there to render comfortable clothing accessible to all by its cheapness, and to bestow those other innumerable blessings which we do not adequately estimate on account of their commonness. Very wretched must have been the private lot of the plebeian population, huddled together in garrets, whose gloom and filth were only solaced by the consideration, that the ragged father of the family might see an elephant and a bull engaged together in mortal combat, protected from the sun by the same awning that shaded an emperor,—or select one of the three thousand seats of the baths of Diocletian, with the happy consciousness that the perfumed skin of the senator was washed from the same aqueduct that poured its freshness upon his own emaciated body.

It would be easy to point out how the government of Rome might have effected the real advancement of the people in knowledge and public spirit, at a tenth of the expense that supported the degrading amuse-

* Gibbon, chap. xxxi.

ments of the Circus. For instance, the beasts that were killed there in one hour might have been wisely maintained in public gardens filled with the choice plants that foreign conquests could have brought home, and thus a love of science might have been generated instead of a ferocious cruelty. But it was not the policy of the Roman government to cultivate the real knowledge of the people. Had that cultivation been pursued, freedom must have followed. The ostentatious pageants which filled the citizen with wonder at the magnificence of Rome, and with contempt for the people of all other countries, made him a slave and kept him so. The value of this principle for the perpetuation of tyranny has not been unperceived by the despots of modern days. Louis XIV. kept the French poor and abject by the fountains of Versailles; and Napoleon taught the same people to rejoice in the possession of works of art,—to exult in the statues which he had stolen, and the arches which he had built—till they forgot that they possessed no representative government. But it is still only just to remark, that, on the other hand, in a State like our own, in which all the power of legislation is put forth for the protection of individual property, with a consciousness that its security is the chief foundation of public and private happiness, the ruling power is apt to forget that the public collectively are entitled to some enjoyments. Of which of our kings can it be said, in addressing the people, as Anthony said of Cæsar,

> "He hath left you all his walks,
> His private arbours and new planted orchards;
> * * * * He hath left them you,
> And to your heirs for ever; common pleasures
> To walk abroad and recreate yourselves *."

* Julius Cæsar, Act. iii. Sc. 2.

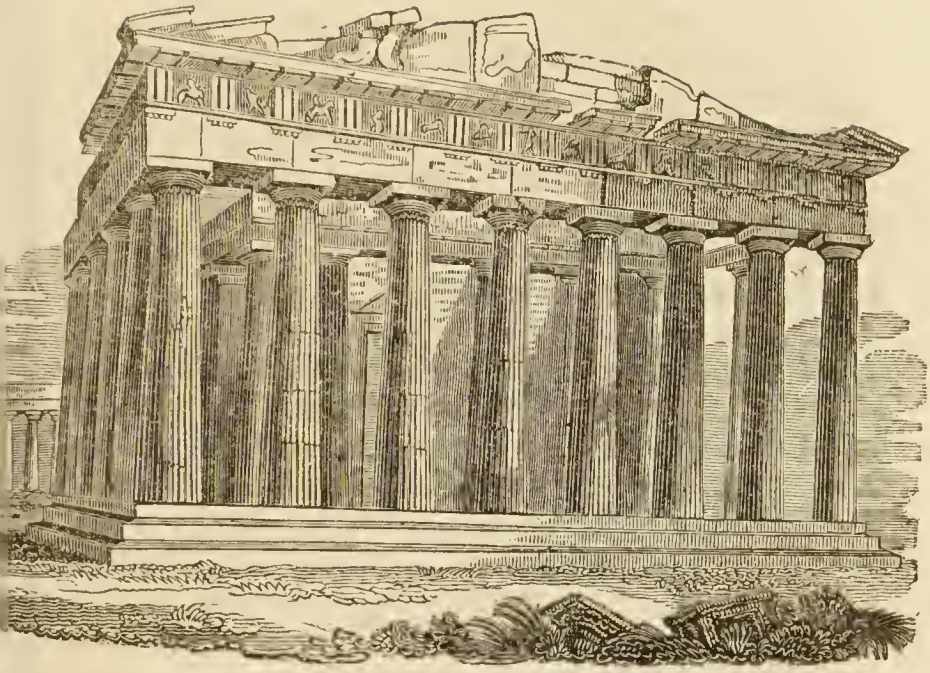
The people, it may be contended, have not learnt, in the scanty recreations which the State has yet afforded them, to respect the property upon whose preservation their enjoyment depends. And why? They have been educated under a system of exclusion; and they feel, therefore, as if they were aliens when they are grudgingly admitted to a gallery or a museum. Even the monuments of the illustrious dead, for which the nation has paid, cannot produce their effect upon the national mind, unless the individual pay also for their inspection. The tombs of our poets and of our statesmen are committed to the custody of a rapacious official; and then we complain that the common people have a low standard of taste, and cannot be elevated into the love of intellectual enjoyments!

We have been led to these observations from the belief that, in contemplating the manners of antiquity and of foreign nations, the principal end ought to be the improvement of our own institutions. The Romans endeavoured to give our rude ancestors, whom they had conquered, a love of the sports of the amphitheatre;—and remains of considerable buildings, evidently dedicated to these amusements, exist in various parts of Great Britain, such as at Dorchester, at Silchester, at Caerleon, at Redruth. We have a distinct record also, that the games of the Circus were celebrated at York, in the time of Severus. We shall not revive these sports, the characteristics of a low state of morals and of knowledge,—although we still possess the bull-dog, a chief favourite of the ancient Circus. But we may not improperly borrow a little of the Roman desire to afford the people amusement; and by rendering it conducive to their advancement in taste and science, call forth new principles of attachment to Institutions, whose

abuses only have anything to apprehend from the widest spread of sound education.

Medal representing the statue of Pertinax, drawn by four elephants, in a triumphal chariot after his death, by command of Severus, to the Circus, at the commencement of the games. The medal at the head of this chapter represents a similar honour which was paid to Augustus, by command of Tiberius.

*** The above medal, and several of the preceding ones, are copied from the work to which we have so often referred—"Gisberti Cuperi, De Elephantis in Nummis obviis Exercitationes duæ," Two Essays on the Representations of Elephants on Coins, consisting of 284 folio columns, first printed in the "Novus Thesaurus Antiquitatum Romanorum," of A. H. de Sallengre, 3 vols. fol. Hague, 1719.



Ruins of the Parthenon.

Chapter XIII.

THE IVORY STATUES OF ANCIENT GREECE AND ROME.

About four centuries before the period when it became the fashion of Rome to drag the elephant from the forests of Ethiopia, to be tormented for the gratification of an ignorant populace, the people of Greece had demanded, probably, even a more extensive destruction of the herds of Asia and Africa, to administer to the splendour of their national religion. During the

administration of Perieles (B.C. 445), the genius of Phidias, the greatest sculptor of antiquity, conceived the daring idea of constructing statues of the gods of Greece which should unite the opposite qualities of colossal dimensions, and materials of comparative minuteness of parts. The sculpture of Greece had been gradually developing itself, through several ages, from the primitive use of the commonest woods as a material, to the employment of those of a rarer growth, such as ebony and cedar,—in clay, in marble, in metals, (and those occasionally of the most precious kinds,)—till it at length reached, according to the taste of antiquity, the highest point of perfection, in the combination, upon a great scale, of ivory and gold. Independently, indeed, of the delicate texture of ivory, its pleasing colour, and its capacity for the highest polish, there was something wonderfully stimulating to the imagination to consider that the colossal objects of the popular worship, which in their forms alone might well command the most profound reverence,—uniting, as they did, all the characteristics of the lovely, the majestic, and the terrible, in the idea of a superior intelligence—that even a single one of these great works of art had required for its completion the slaughter of hundreds of mighty beasts in distant regions. The subject is altogether so curious and interesting, that we may not be considered as deviating from our plan of associating natural history with the social history of the human race, if we dwell at some length upon what has been called the *chrys-elephantine* statuary (the union of gold and ivory) of the Greeks and Romans. The details of this art have been collected together in a work of uncommon splendour and learning, the labour of thirty years, devoted almost entirely to its consideration, by M. Quatremère de

Quincy, a member of the Institute of France *. Out of the immense mass of materials, chiefly, which he has collected in illustration of this subject, we shall endeavour to form a concise view of a branch of ancient art, which, more than any other, had formerly escaped the attention of the learned.

In the gradual progress of Grecian sculpture, through some centuries preceding the age of Pericles, the ordinary products of the country—earth, and stone, and wood,—had formed the materials in which the genius of its art was successively developed. Heyne has well observed, that a certain degree of perfection in sculpture would never have been reached, if the art had not commenced in the employment of common substances †. The same learned authority, speaking of the use of ivory, states that throughout Homer's Iliad the substance is but once mentioned; and that notice occurs in the description of the bit of a horse's bridle belonging to a Trojan. But in the Odyssey, the palace of Menelaus, after his return from his voyages in Egypt and Phœnicia, is enriched with ornaments of gold, and amber, and ivory. From this time, it is probable, that an increasing commerce in ivory was carried on between the Greeks and Phœnicians, who could obtain abundant supplies through their intercourse with Egypt and Ethiopia ‡. Ezekiel, addressing the merchants of Tyre says, "the

* Le Jupiter Olympien, ou, l'Art de la Sculpture Antique, considéré sous un nouveau point de vue: ouvrage qui comprend, un essai sur le gout de la Sculpture Polychrome, l'analyse explicative de la Toreutique, et l'histoire de la statuaire en or et ivoire, chez les Grecs, et les Romains, avec la restitution des principaux monumens de cet art, et la démonstration pratique ou le renouvellement de ces procédés méchaniques. *Paris*, 1815. Folio.

† Winkelmann, Histoire de l'Art, tom. i. addition, B.

‡ See Heeren on the policy and commerce of the people of antiquity, section 1. chap. iv. We refer to the French translation.

men of Dedan were thy merchants: many isles were the merchandize of thy hand. They brought thee for a present, horns of ivory and ebony *." From the period of the Trojan war, the Greeks appear to have employed ivory in the ornaments of their arms and their furniture, in tablets, and, at a later period, in statuary of ordinary dimensions. About two hundred years after the epoch generally assigned as that of the Trojan war, we see the commercial enterprises of King Solomon introducing the same luxurious material into Judea. "Once in three years came the navy of Tharshish, bringing gold and silver, ivory, and apes, and peacocks †;" and, thus supplied with the elephants' teeth of India, "the King made a great throne of ivory, and overlaid it with the best gold ‡." A century after Solomon, the sacred historian speaks of "the ivory house of King Ahab," as a thing so remarkable as to be enumerated in the book of Chronicles with all the cities that he built. "The ivory house of Ahab," and "the ivory palaces" mentioned in the forty-fifth Psalm, doubtless referred to buildings of which ivory constituted a distinguished ornament. Propertius has retained the same mode of expression in a later age. We thus see that the use of ivory, which was probably very general amongst the great monarchies of Asia, had extended into Greece and Judea, several centuries before the age of Phidias.

But the employment of ivory in sculpture in the manifold variety of bas-relief and statuary, and above all of colossal statuary, must have constituted a much higher exercise of human ingenuity than its application to the art of inlaying (the *marqueterie* of the French), of which we find the earliest mention.

* Chap. xxvii. ver. 15.

† 1st. Kings, chap. x. ver. 22. ‡ Ibid. ver. 18.

The skill which overcame the great natural difficulties of working into large surfaces such a substance as the tusk of the elephant must have demanded a high degree of mechanical excellence; and when we find, in combination with this excellence, the rarest powers of invention and design, such as Phidias undoubtedly possessed, we need not trace the gradual steps of the art which he practised to form an adequate idea of its difficulties and importance. But it may be still necessary to look back upon its beginnings; for we must remember that the use of ivory in the higher departments of statuary is in a certain degree a lost art, the great works which it produced having perished, and the growing scarcity of the material having forbidden the cultivation of the art to any considerable extent after the Christian æra. In addition to these circumstances, the chief excellence proposed to be attained by the union of ivory and gold in Grecian statuary, that of variety of colour, is repugnant to our own notions of the perfection of sculpture. But we must not therefore conclude that this peculiar description of statuary was limited in its use, or perished with the genius of the individual who attained in it the highest celebrity. It was in a very considerable degree the species of statuary especially dedicated to the representation of the gods in their temples*. The records which antiquity has left us of the variety of Grecian worship, and the immense number of the edifices in which that worship was celebrated, will at once shew that the quantity of ivory demanded for the construction of many such statues as those of the Olympian Jupiter and the Minerva of the Parthenon, would very quickly exhaust all the resources of modern commerce.

Had the material with which the Greeks delighted

* Dentibus ingens pretium et deorum simulacris landatissima ex iis materia."—*Pliny*, lib. viii. cap. 10.

to form their most sumptuous colossal representations of Gods and Heroes* been that which, since the revival of art, is more especially dedicated to purposes of statuary—marble, the very remains which had escaped the ravages of time would have furnished us with a much more precise notion of the extent of their labours, than any which we are enabled to derive from the writers of antiquity. We can judge of the grandeur of the external decorations of the temple of Minerva at Athens, by the fragments which have been conveyed to our own Museum, after the lapse of two thousand three hundred years. For several centuries, the Turkish oppressors of modern Greece were wont to pound the statues of the Parthenon into dust, to form lime for the construction of their miserable hovels; and yet sufficient has escaped the ravages of 'time and the barbarian,' not only to be worthy of preservation as curiosities of antiquity, but as models of genius that will give birth to imitators through many ages. But in the very temple whose friezes were adorned with that splendid representation of the triumphs of Theseus which the Turk destroyed, but whose fragments we count amongst our most precious treasures, there stood an image executed by the same master-hand, which pilgrims from every part of Greece came to gaze upon and worship, of which not the slightest portion remains to vouch for the accuracy of those who have described its surpassing excellence. So celebrated was this figure that there is scarcely any particularity attached to it, of which some description may not be found in the writings of the ancients. It was formed of gold and ivory; and so prodigal was the application of the precious metal to its ornament, that Pericles

* The chrys-elephantine statuary was not, certainly, exclusively dedicated to colossal representations of the divinities of Greece;—for example, the statue called that of Ceres, which Dr. Clarke brought to Cambridge from Eleusis, is of large dimensions,

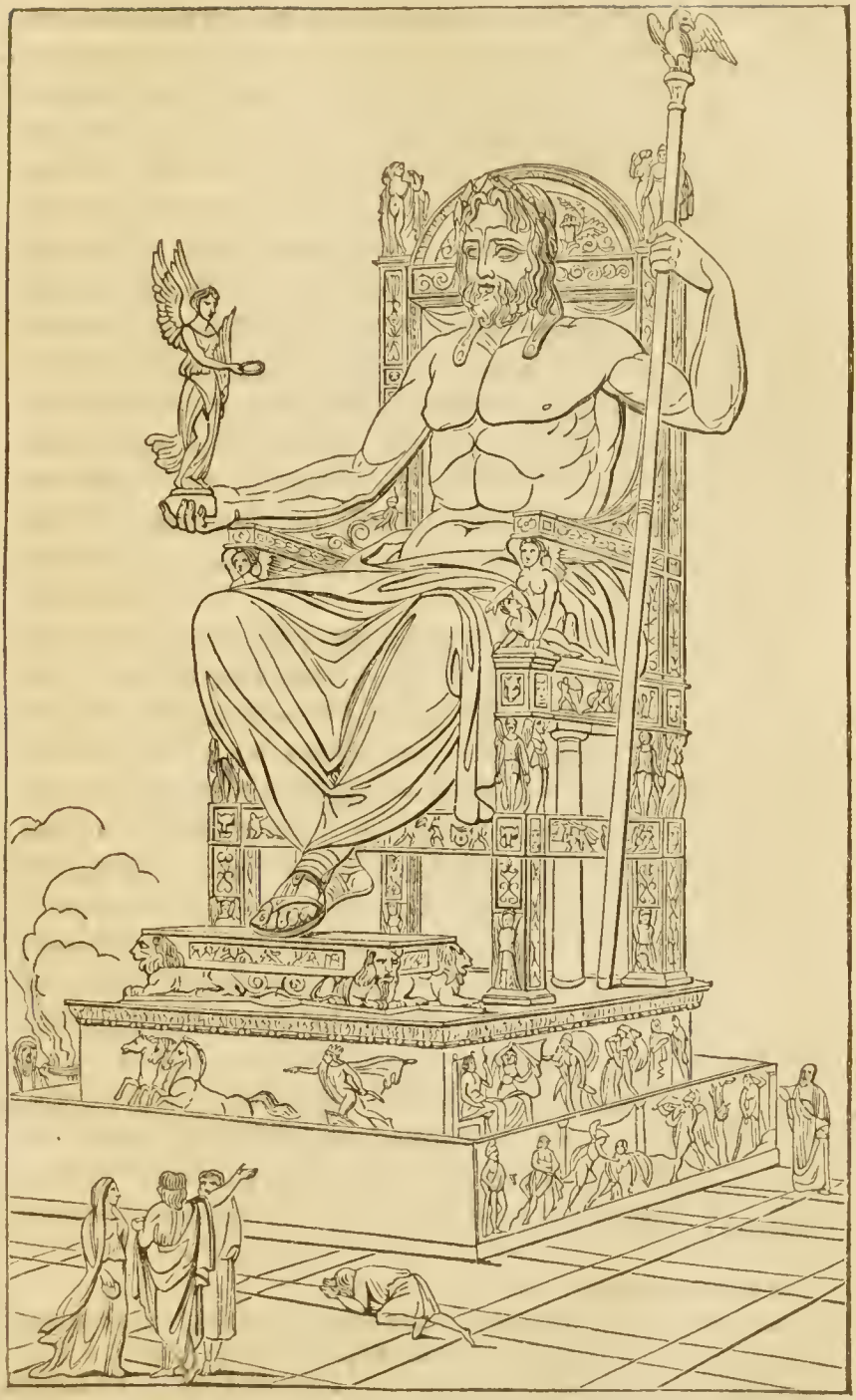
enumerated it as one of the resources for carrying on the Peloponnesian war. The gold was plundered*, and the ivory probably perished by the gradual influences of the atmosphere upon a material so susceptible of decay, or was destroyed with the destruction of the old religion. The Minerva, in common with the other great statues which so soon yielded to the attacks of time and of cupidity, was not constructed with reference to the principle of a long duration. The glory to be derived from the admiration of after-ages furnished a much less important motive in the choice of a material, than the instant effect to be produced upon the votaries of the national religion, by the brilliancy and delicacy of which the union of gold and ivory was susceptible. Ingenious methods were devised to arrest the progress of decay, such as pouring oil by hidden channels through the various parts of such figures; and it is even probable that the great artists who constructed them, possessing the desire to be known in succeeding ages, which is a universal characteristic of the higher attributes of talent, might have not been in a condition experimentally to have known the rapid decay which awaited these their choicest works. When Ovid prophesied that his poems would be more durable than brass, he could scarcely have hoped that his boast would have been realized;—and yet how few of the molten statues of antiquity remain for our delight, but at what period of uncivilization are we likely to lose the Metamorphoses?

The author who has left us the most interesting details of the state of art amongst the Greeks is Pausanias, who published his description of Greece at Rome, during the reigns of the Antonines. In his notices of the remarkable objects which existed in the

* It was carried off by Leochares, during the siege of Athens by Demetrius. Pausanias, lib. i. cap. 25.

Grecian cities, we are especially struck with his accounts of those prodigious monuments of sculpture in ivory, of which no specimen has been preserved to us, and which even appear to be repugnant to our notions of the beautiful in art. The remains of ancient statuary in marble and bronze can give us no definite idea of this species of sculpture. We perceive that the most precious substances had been laid under contribution to form these statues; and that the highest genius, calling to its assistance a mechanical dexterity, whose persevering contest with difficulties is alone matter of wonder, had rendered them worthy to be regarded as the perfect idea of the Gods, whose individual temples they more than adorned. These extraordinary representations, there can be no doubt, were the glories of the sanctuaries of Athens, of Argos, of Epidaurus, and of Olympia; and were especially suited, by the grandeur of their dimensions, the beauty and rarity of their materials, the perfection of their workmanship, and the ideal truth of their forms, to advance the influence of a religion which appealed to the senses to compel that belief which the reason might withhold. We shall select a few passages from Pausanias and other writers, to justify this account of the peculiar excellence of the colossal statuary of ivory and gold. We begin with that of the Jupiter at Olympia, generally described as the master-piece of Phidias.

"The God," says Pausanias, "made of gold and ivory, is seated upon a throne. On his head is a crown representing an olive-branch. In his right hand he carries a Victory, also of gold and ivory, holding a wreath, and having a crown upon her head. In the left hand of the god is a sceptre shining with all sorts of metals. The bird placed on the summit of the sceptre is an eagle. The sandals of the god are of gold, and his mantle is also golden. The figures of various animals, and of all sorts of flowers



The Jupiter of Phidias, as restored by M. Quatremère de Quincy.

particularly lilies, are painted upon it. The throne is a diversified assemblage of gold, of precious stones, of ivory, and of ebony; in which figures of all kinds are also painted or sculptured *."

The Greek traveller then proceeds to describe, at considerable length, the accessories of the statue and the throne, such as the ornaments in bas-relief and the base; but he does not furnish us with the dimensions of this great work. The omission is supplied by Strabo, in a manner which is sufficiently striking. "Phidias," he says, "had made his Jupiter sitting, and touching almost the summit of the roof of the temple; so that it appeared that if the god had risen up he would have lifted off the roof." The height of the interior of the temple was about sixty English feet †.

The description of Pausanias, inadequate as it is to give a precise idea of the splendour of that great work of art, which commanded the wonder and admiration of antiquity, is sufficient to shew us that the effect produced by the combination of various materials, in a great variety of colour and ornament, was essentially different from that of the sculpture of marble. The object of the artist was doubtless, in a great degree, to produce an illusion approaching much nearer to reality than the cold severity of sculptured stone. It resulted from the spirit of Paganism, that every device of art should be employed to encourage the belief of the real presence of the God in his temple. The votaries indeed knew that the statues of the divinities were the work of human hands; and there was no desire to impose upon the

* Pausanias, lib. v. cap. 7.

† M. Quatremère de Quincy has given a beautiful restoration of the Jupiter of Phidias, from the descriptions of the ancient writers, and existing remains of Grecian art. The wood-cut is an outline from this figure, which is coloured in the original work.

popular credulity in this respect—for the statue of the Olympian Jupiter bore an inscription that it was made by Phidias. But after every effort of genius had been exerted to produce the most overpowering effect upon the imagination, by an unequalled combination of beauty and splendour, the devices of the priests, or the natural tendency of the votaries to superstition, invented some legends which should give the work supernatural claims to the popular reverence. "The skill of Phidias received," says Pausanias, "the testimony of Jupiter himself. The work being finished the artist prayed the god that he would make known if he was satisfied, and immediately the pavement of the temple was struck with lightning, at the spot where in my time stands a vase of bronze." But the grandeur of the workmanship was most relied upon to blend in the mind the intellectual idea and the material image of the divinity. "Those who go to the temple," says Lucian, "imagine that they see, not the gold extracted from the mines of Thessaly, or the ivory of the Indies, but the son himself of Saturn and Rhea, that Phidias had caused to descend from heaven*." We have the record of Livy that the effect which this wonderful statue produced upon the mind was not limited to the superstition of the multitude. "Paulus Æmilius," says the historian, "looking upon the Olympian Jupiter, was moved in his mind as if the god was present." Up to the time of Antoninus, the reputation of this great work still drew a wondering crowd to Elis; for Arrian mentions that the chef-d'œuvre of art was such an object of curiosity that it was held as a calamity to die without having seen it†.

The statue of gold and ivory which is named by the writers of antiquity as approaching very nearly to,

* De Sacrificiis.

† Arrian, Epist. lib. i. cap. 6.

if not rivalling the excellence of the Olympian Jupiter, was the Juno of Argos, executed by Polycletus, a contemporary of Phidias. It appears that the works of his brother artist were inferior to those of Phidias in grandeur and magnificence, but rivalled them in beauty and skilfulness of execution. The description by Pausanias of the Juno runs thus: "The statue of Juno was seated on a throne. Her size is extraordinary. She is of gold and ivory: on her head is a crown, whereon are worked the figures of the Hours and Graces. In one hand she holds the sceptre, in the other the fruit of the pomegranate." Maximus Tyrius says, "Polycletus enabled the Argives to contemplate the Queen of the Gods in all her majesty. She is seated upon a throne of gold, where we admire the whiteness of her breast and arms of ivory."

Of the Minerva of the Parthenon, the first as to the period of its execution, and the second in point of excellence, of the great statues of Phidias, we have no entire description, but constant allusions to it in the ancient writers. Its height, according to Pliny, was forty English feet*. We learn from a passage in Plato that the gold in this celebrated figure predominated over the ivory. "Phidias," he says, "made neither the eyes, nor the face, nor the feet, nor the hands of his Minerva of gold, but of ivory." Plutarch has recorded that the prudent artist had so skilfully disposed the precious metal about the statue, that it might be taken off and its weight ascertained, if a necessity should arise that he should vindicate his honesty†.

The age immediately preceding that of Phidias had raised up edifices which awaited their final ornament from the hand of so daring a genius. The tyrannical government of Athens, at the period of

* Lib. xxxvi. cap. 5. † Plutarch, in Pericles.

the fiftieth Olympiad, had employed itself, as is the usage of despotism, in the execution of great architectural works. The Temple of the Olympic Jupiter, in that city, commenced by Pisistratus, was upon so vast a scale that it required the resources of eight centuries for its completion. But the invasion of the Persians gave a more powerful impulse to the mind of Greece, to reconstruct the monuments which their great enemy had destroyed, than even the subtle policy of the tyrants of the preceding generation. The spoils of triumph enabled them to erect monuments in honour of their Gods, which should be at the same time trophies of their victories. Within a very few years, were built the temples of Minerva at Athens, of Ceres at Eleusis, of Jupiter at Olympia, of Juno at Argos, and of Apollo Epicurius at Phygalia. At certain periods of society extraordinary impulses are given to the mind of nations, to produce great monuments of art; and thus we see that Greece in little more than half a century covered her land with temples. In a similar manner many of the Gothic cathedrals of modern Europe were built at one and the same period. A new career of splendour was opened to Phidias by the magnificence of Pericles. The ancient temples had statues of gold and ivory; but they were not colossal. It was for him to create those gigantic monuments which should cause the shrine to appear too small for the divinity, and thus bring the idea of the infinite and finite into a contrast too powerful for the senses to withhold their homage.

The peculiar merit of this idea of Phidias did not consist in his mere adoption of the colossal form; but in his employment of a minute material to produce in combination the effect of a vast solid surface. The idea of colossal statuary doubtless belongs to the infancy of art. We find the Gods of the Hindoo mythology of about three times the height of ordinary

men, in the caves of Elephanta; and Mons. Deguignes saw images thirty feet high in a pagoda of China. The Greeks probably reeeived the taste for the colossal from the Egyptians. "The peculiarity of the imitative genius of the Greeks was always to engraft, if we may so speak, upon ancient practices those combinations to which the progress of taste appears to have given a new youth. Thus all the germs of art were by them cultivated and ameliorated in an insensible but continued progression. We find the character of their first essays imprinted upon their masterpieces. If the absolute colossal had been an invention of ignorance, that was not a motive for renouncing it under a more refined imitation. * * * * That which had commenced by being a gross symbol became a sublime metaphor, when the imagination of the greatest sculptors had invested it with all the poetry of their art; and it must be perceived that the want of proportion between the colossal figure and the edifice in which it was placed, was not the least poetical secret of these monuments which now offend the opinion of the moderns *."

The author of the Wisdom of Solomon has described the statuary which was the object of idolatrous worship, as "an image spotted with divers colours, the painter's fruitless labour, the sight whereof enticeth fools to lust after it †." The practice of painting statues, like the taste for the colossal, belongs also to the infancy of art; although it was continued to an age when a severer taste was cultivated ‡. But, amongst the Greeks, the links which connected the rudest efforts of the earliest times with the elaborate productions of the most cultivated periods were to be found in the conservative principle of their religion.

* Quatremère de Quincy, page 195.

† Chapter xv. verses 4, 5.

‡ There were many painted statues in Greece when Pausanias avelled in *it*.

A natural veneration was attached to the coarse images of their primitive worship; and thus, by the side of the ivory Juno of Polycletus, was an ancient wooden image formed of the wild-pear tree*. It was in this way that the old image, "spotted with divers colours," was the prototype of the statuary of ivory and gold. "In following the history of the generation of the arts in Greece, we see them under the double influence of a spirit, at once a creator and a preserver, which governed all her inventions;—the forms of pleasure emanating immediately from those of necessity; the desires of instinct becoming the inspirations of genius; the most vulgar suggestions opening the source of the noblest conceptions; the grossest labours giving birth to the most delicate and subtle operations; and the habits of a puerile and vicious taste putting forth the richest and most astonishing combinations of the art of the sculptor †." Upon the same principle of elevating a rude practice into a tasteful art, the Greeks, in their statues of ivory and gold, kept up the idea of the old painted idols, which were covered with draperies of real stuffs. We have already seen that the golden drapery of the Minerva of the Parthenon, although forming an integral part of the statue, could be moved without material difficulty; and probably when Dionysius the tyrant stript the Jupiter of Syracuse of his golden mantle, under the pretext of the bitter mockery that it was too warm for the God in summer and too cold in winter, he actually removed a plating of gold, and not a tissued stuff, as most writers have supposed.

The adherence to established principles and practices which constitutes one of the great peculiarities of Grecian art, is to be traced in the perfection with which the tusk of the elephant was worked by Phidias into colossal statuary. Regarded only as an

* Pausanias, lib. ii. cap. 17.

† Quatremère de Quincy, page 7.

effort of mechanical skill, nothing can give us a higher idea of the singular ingenuity of the Greeks than this species of work, of which no sculpture that we understand or practise can furnish any adequate notion. So far have we been from a rational conception of this subject, that M. de Paw accuses Pliny and Pausanias of untruth, in having represented, as he says, these enormous masses to have been formed of solid ivory. These ancient writers certainly enter into no description of the technical skill by which these vast statues were constructed, so as to have the appearance of one compact mass; but even in modern days, when an art is generally practised, how few writers, in describing its effects, think it necessary to enter into an account of any of its processes. It is exceedingly probable that the common spectators of these colossal masses of ivory believed that they were solid; but it is not likely that men so intelligent as Pliny and Pausanias would fall into such an error, although it offered the most eloquent tribute to the skill of the artist. The Greeks, doubtless for the purpose of their colossal statuary, endeavoured to procure the largest tusks which the elephant produced. The temples were depositories of ivory; and we learn from Cicero that the fleet of King Massinissa having touched at Malta, the commander carried away, from the temple of Juno, some elephants' tusks of an enormous size, which the king afterwards restored *. But with every advantage that could be derived from a selection of the largest tusks, at a time when the power and commercial activity of Greece could lay the forests of Asia and Ethiopia equally under contribution, it is evident that the skill by which even the largest pieces of ivory were adapted to the purposes of colossal statues, must have been the growth of a long experience. Ivory, in fact, appears to be the

* De Signis.

most difficult substance upon which the statuary could be supposed to employ himself. Instead of a solid and entire mass, like a block of marble,—instead of a ductile and fusible material like the metals,—the elephant's tusk presents a multitude of incoherent parts, bounded in their dimensions by the dimensions, however large, of the animal which bears them ; irregular in their forms, and presenting as hard a surface to the tool as marble itself. Statuary, to be produced from this material, must of course be an assemblage of parts ; but it must be an assemblage infinitely more difficult of execution than a plain surface—than a mosaic pavement, for instance. If the surface were only circular, or unequal, the difficulty would be increased ; but when this assemblage of pieces is sought to form a representation of the human body,—that is to say, the most varied and delicate combination that can exist,—it is evident that the mechanism or the handicraft by which this effect is produced must be attended with almost insuperable difficulties.

The truth is, that in this, as in all other exercises of high mechanical skill, the art had become perfect by a long succession of experiments ; and being allied to, and growing out of other arts, the division of labour, the great principle through whose application the most difficult works of man have been accomplished, was applied to an extent of which the art of sculpture in marble was not susceptible. Without the division of labour, that perfection could not have been attained at every stage of the work which, out of a multitude of fragments, could form a figure of forty feet in height, and not as the pageant of a year, but as a monument for ages ; nor could the great works of Phidias have been executed after he was sixty years old, one even of which, without the aid of this principle, appears far too mighty for the labour of the longest life.

In the speculations of M. Quatremère de Quincy upon this extraordinary branch of Grecian art, he incessantly asked himself how a species of sculpture so remarkable in the character of its mechanical operations, and so different from the ordinary modes which nature herself has suggested to man for the imitation of her forms, could have been first developed in Greece? By patient investigation, he found that sculpture, in the early periods of Grecian art, was gradually called forth upon a system, and by mechanical processes, which had no relation whatever to marble or molten statuary. There had been an art long existing amongst the Greeks called τορευτικη, which, although the particular word has been applied by the moderns to the engraving of wood in relief by the use of the lathe, signified, in its more extended sense, that part of sculpture which worked upon beaten metals, soldered together, inlaying them with costly substances, and finishing all with the graver. This was the art of sculpture in metals,—the art of the chaser,—the art which elevated the goldsmiths of Florence, in the fifteenth and sixteenth centuries, to a rank which allowed their most skilful workmen to compete with those who pursued sculpture as a liberal profession. Pliny, who has divided the art of sculpture among the Greeks into four departments,—that of modelling (working in clay), statuary (casting in bronze), sculpture (cutting in marble), and the *toreutic* (engraving or embossing in metals), says "there is no work, whether in painting or the *toreutic*, which has been produced by a servile hand*." The art, therefore, it appears, held so high a place, that according to the notions of the ancients, none but the enlarged mind of a freeman was capable of being devoted to it. The same authority mentions

* Lib. xxv. cap. 10.

Phidias as being the first who had given this art its full development *, and he adds that it was carried to its point of perfection by Polycletus. Pliny mentions the four great departments of the art of sculpture as if they existed contemporaneously; and seeing that from the highest antiquity the art of fashioning earth, and wood, and stone, and metals, existed in some shape or other, he was unable to discover a real priority in those divisions of art whose origin was equally lost in the obscurity of previous ages. The first statues were undoubtedly connected with religious worship; and the offerings which were constantly made in the temples of the Grecian mythology were in a great degree connected also with the labours of art. The ingenuity of man was called upon to add its value to the intrinsic worth of the metal upon which it worked. The temple of Delphi, which was pillaged five times, numbered amongst its choicest riches vases and tripods. The traditions of the poets ascribe the earliest metallic works to Vulcan, and all the objects of sculpture mentioned by Homer were works in metal. The sacred historian, also, speaks of Tubal Cain as "an instructor of every artificer in brass and iron." The domestic habits of the Greeks were calculated, as much as their religion, to call forth that species of art which was associated with the sculpture of metals. Anacreon suggests to a workman the designs which he wishes to have engraved on his silver vases; and Athenæus counts sixty-six forms of cups which were employed at table. Cicero recites the number and beauty of the vases which were used in Sicily—the *patella*, the *patera*, the *thuribulum*, —all made with the greatest skill and of antique fashions, and common in every house whose owner was in easy circumstances. There was doubtless,

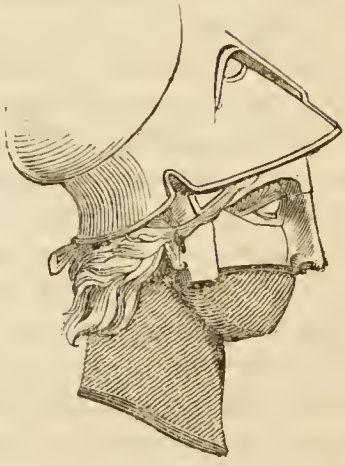
* Primusque artem toreuticen aperuisse atque demonstrasse merito judicatur. Lib. xxxiv. cap. 8.

therefore, a very considerable commerce in these articles throughout the ancient world ; and the *Toreuticians* constituted a class of the highest importance to the luxury of private life and the magnificence of public worship. Phidias, who appears to have practised this art as a profession, and to have carried to it a combination of talent rarely united in one individual, gave it its highest development when he adapted its processes to the execution of those colossal works which we have described. His genius probably stood in the same relation to ancient art as that of Michael Angelo to modern. They were each as links between one age and another,—and each, possessing an astonishing capacity for the ideal and the practical, reduced the abstractions of the imagination to an alliance with the tastes of established custom. Although Phidias was a statuary in bronze, a sculptor in marble, and a painter in his youth, his reputation principally depends upon those colossal statues composed of assemblages of ivory and gold, and all their accessories, such as thrones and pedestals, which were produced by his skill in the art known as the *Toreutic*. A passage in Seneca points out this distinguishing characteristic of his fame: "Phidias not only knew how to make images in ivory, but he made them of brass *." It is difficult to understand how the habit of employing his talent upon works in which ornament was the distinguishing character, could have permitted the genius of this great sculptor to produce a statue possessing the severe grandeur of the Theseus, whose remains are existing in our Museum. But it is still more difficult for us, bred up in entirely different notions of taste, to understand how the minute labour of the chaser and the inlayer, applied to colossal figures, such as the Jupiter or Minerva, could have rendered the

* Epist. 85.

general effect, the idea of the art, triumphant over its details, and have united the most perfect purity of taste with the greatest splendour of materials. Yet that such was the effect of these statues and their accompaniments, there can be no reasonable doubt; and the difference between our habits of thinking and those of the ancients in this particular, agreeing as we do in our estimate of marble statuary, is probably to be referred to the consideration that our taste in sculpture is essentially imitative, and that being formed upon the models of Grecian art which time has spared to us, it is incapable of arriving at a right judgment of those productions of a different order of excellence, of which no model remains.

A portion of Mons. Quatremère de Quincy's book is devoted to a demonstration of the mechanical proceedings in the construction of statues of ivory, or of ivory and gold. These details are exceedingly interesting, both to the artist and to the mechanic. His theory is founded upon a consideration of the form of the elephant's tusk, partly hollow and partly solid,—upon the assumption that the ancients were able to obtain tusks of larger dimensions than those ordinarily seen at the present day,—that an art existed of rendering the cylindrical part of the tusk flat when cut through longitudinally,—and that plates might thus be procured from six to twenty-four inches wide. He then conceives that a block of wood having been fashioned as a sort of core for the ivory, the individual plates were fixed upon it, having been cut and polished in exact resemblance to the corresponding portions of a model previously executed. The woodcuts on the next page exhibit the clay model, the separate pieces of ivory for a bust, and the block with a portion of the ivory plated on it.



The genius of Phidias, and the other great sculptors of ivory, called into life by the power and wealth of Greece at the period of the Persian war, had filled her temples with statues in which the material of elephant's tusks was employed with equal taste and prodigality. Even after the death of Alexander,

when sculpture had assumed an heroic rather than a sacred character, being consecrated to the actions of men rather than to the ideal attributes of gods, statues of gold and ivory were universal throughout Greece. In the Philippeum of Olympia were statues of Alexander and of his family, executed in gold and ivory. The incense of sculpture was particularly acceptable to the Macedonian conqueror; and his statues were spread through every country where his reputation had extended. The conquest of India necessarily increased the importation of ivory into Greece. The funeral monument of Hephæstion was adorned with statues of gold and ivory. Under the successors of Alexander the abundance of ivory had reached its height. In the triumph of Ptolemy Philadelphus in Egypt, six hundred elephant's teeth were carried by Ethiopian slaves; and, according to the belief of M. Quatremère de Quincy, amongst the infinite number of statues in that triumph, some of colossal dimensions, drawn upon enormous cars, there must have been undoubtedly many of gold and ivory. The same Ptolemy built a portico of ivory adorned with figures of the like material, in his celebrated ship described by Athenæus.

The total subjection of the republics of Greece to the Roman power, upon the dissolution of the Achaian League, rendered the arts of Greece tributary to the conquerors; for, not only were the tasteful spoils of the Republics conveyed to Rome to adorn the pomps of the victors, but the sources from which the arts had derived their means of existence were poured into the treasuries of the mistress of the world. Rome became the resort of the most skilful artists of all nations, and especially of Greece; and the love for sculpture grew to be universal, when the means for its gratification were so abundant. The taste for sculpture in ivory was introduced before the time of Cæsar; and

in a short period it became a passion which laid the deserts of Africa under contribution for the tusks of elephants, as much as the colossal images of the days of Pericles. In that triumph of the great Dictator, which celebrated the conquest of Africa, the *apparatus* of the pomp, as it was called, was of ivory;—that is, the symbolical figures of provinces, of towns, of mountains, of rivers, of divinities, belonging to the conquered country, were of that material.

"Oppida turritis cingantur eburnea muris *."
Let the ivory cities be surrounded with turreted walls.

Dion Cassius says that the statue of Cæsar himself was constructed of ivory. Passiteles, a contemporary of Pompey, executed an ivory Jupiter for the temple which Metellus built. The doors of the Palatium which Augustus raised after the victory of Actium were of ivory †. The senate decreed an ivory statue to Germanicus ‡; and the Emperor Titus raised an equestrian statue of ivory to Britannicus §.

The art, too, of colossal ivory statuary did not entirely fall into disuse under the Romans; for when Adrian completed the temple of Jupiter at Athens, he erected in it a statue of ivory and gold of large dimensions. At this period, when two centuries had elapsed after the conquest of Greece, the artists of Athens were busily employed in producing copies of the great works of the times of Phidias and Praxiteles. The creative genius which had been called into action, to elevate the national worship to the highest point of splendour, or to preserve the memories of the heroes of the soil, in monuments of surpassing beauty and grandeur, had become essentially imitative; and was distinguished principally for the mechanical dexterity

* Ovid, Epist. ex pont. lib. iii. ep. 4.
† Propertius, lib. ii. eleg. 23.
‡ Tacitus, Annal. lib. ii. § Suetonius, in Tit.

which survived its spirit. At the time of Philostratus (A. D. 200) Athens carried on a considerable commerce in ivory statues of the manifold Gods of the Grecian and Roman mythology. Apollonius, whose life he relates, being about to embark at the port of the Piræus for Egypt, went on board a vessel ready to set sail for Ionia, whose freight consisted of statues of divinities, some of gold and marble, and some of ivory and gold. "Do you consecrate them?" said the philosopher to the merchant. "No," replied he, "but I sell them to those who will consecrate them." "Do you not see," answered Apollonius, "that you make a merchandise of the Gods? The ancient statuaries did not act thus. They did not go about to cities carrying Gods to sell, but they resorted to them with their talents, and the instruments of their art, whether to carve the marble or to work the ivory, and they were furnished in the temples with the rough material out of which to form the statues*." The complete establishment of Christianity under Constantine extinguished altogether the demand for works of art, in connexion with the purposes of religion. The altars of the false Gods were destroyed, and their temples deserted; many of the great works of bronze and marble were removed to Constantinople; but the colossal statues of ivory and gold probably perished in the shrines where they were reared. The account of the destruction of the colossal statue of Serapis, at Alexandria (A. D. 389), may lead us to conjecture how the ivory statues, which were once objects of even greater reverence, had become marks for the popular indignation, in the sudden change from superstition to contempt. "A great number of plates of different metals, artificially joined together, composed the majestic figure of the deity, who touched on either side the walls of the sanctuary.

* Philostratus, de vitâ Apollon. Tyan, lib. v. cap. 8.]

It was confidently affirmed, that if any impious hand should dare to violate the majesty of the God, the heavens and earth would instantly return to their original chaos. An intrepid soldier, animated by zeal, and armed with a weighty battle-axe, ascended the ladder; and even the Christian multitude expected, with some anxiety, the event of the combat. He aimed a vigorous stroke against the cheek of Serapis; the cheek fell to the ground; the thunder was still silent, and both the heavens and the earth continued to preserve their accustomed order and tranquillity. The victorious soldier repeated his blows: the huge idol was overthrown, and broken in pieces; and the limbs of Serapis were ignominiously dragged through the streets of Alexandria. His mangled carcass was burnt in the amphitheatre, amidst the shouts of the populace; and many persons attributed their conversion to this discovery of the impotence of their tutelar deity *."

The last mention which we find of the Olympian Jupiter is made by Libanius, a contemporary of Julian the Apostate; and Julian himself speaks of the ability of Phidias, to execute small works as well as colossal, as if he were personally acquainted with his statues. Of the immense quantity of works in ivory which Greece and Rome produced, a head smaller than the usual size, a statue about eight inches in height, and a bas-relief, are all that remain to us †. This species of sculpture doubtless fell into disuse under the Byzantine emperors. At this time also the elephent was no longer required in Europe, to furnish a brutal gratification to the Roman multitude. He was at peace for a thousand years in his native forests. Then arose the demands of modern commerce; and now the hunters once more chase him, wherever the demands of the trader have penetrated,

* Gibbon, chap. xxviii. † See Winkelmann.

that Europe may have billiard-balls and chess-men, snuff-boxes and pin-cushions*. But this circumstance is only one of the many examples that might be produced, to shew that as the principle of Exchange—the vital power of civilization—advances amongst mankind, the minutest wants of society call forth profitable labour to supply them. The splendid efforts of ancient power, employing capital wrung by conquest or domestic oppression from the inglorious cultivator or the despised slave, have left monuments upon which we gaze with wonder and humiliation. But it is consolatory to reflect, that if a Pericles could raise the Parthenon, and a Titus the Colosseum, the quiet power of a British manufacturer may do more to advance the perfect civilization of the earth, by calling forth new combinations of profitable industry, than all the convulsive efforts of the most powerful minds of antiquity. And yet it is probable that civilization would never have received its highest impulses without such efforts. "Even in these vanities we discover how fertile those ages were in other kind of wits than these of ours†."

* Of the employment of ivory in the domestic arts of antiquity there are many notices in ancient writers. Amongst the Greeks, works in ivory constituted an extensive manufacture. Demosthenes (the father of the orator) had a manufactory of cabinet-ware, in which there was a great consumption of ivory. He also used it in another manufactory that he had, a knife-manufactory, for knife-handles. When he died, he left one talent's worth of ivory in the establishment. He was also a wholesale dealer in the commodity, and supplied the inferior tradesmen. These facts are stated in the oration of "Demosthenes against Aphobus."

† Montaigne, book iii. chap. 6.

Chapter XIV.

THE FOSSIL REMAINS OF ELEPHANTS.

"God, in his Providence, to check our presumptuous inquisition, wraps up all things in uncertainty, bars us from long antiquity, and bounds our search within the compass of a few ages *." Such were the views of a writer of the seventeenth century (a period when the antiquities of Greece and Rome were diligently investigated), as to the necessarily limited extent of human research into the mysteries of times long past. And, indeed, when we consider that at this period the monuments of the historical æra were alone studied, and that men had not begun, with any approach to scientific principles, "to read the records of nature, and to raise a chronology out of them †," we must perceive that it was a natural and not unphilosophical idea that there were precise limits to investigation which man was forbidden to pass; and that a very few pages even of the history of his own species were open to his perusal.

Amongst the many circumstances which led to a very general belief with persons of contemplative habits, that all things were wrapt in uncertainty, none perhaps had a larger influence upon their speculations than the occasional discovery of considerable quantities of fossil bones. Comparative anatomy, up to the time of the late John Hunter, was

* Daniel the historian, quoted in Burton's Anatomy of Melancholy.

† Hooke's Posthumous Works, quoted in Lyell's Geology.

very imperfectly understood, even by those who were skilful in the anatomy of the human animal. But, at any rate, a century ago, no one dreamt that a system could be perfected which, taking a single bone, or a single tooth of some animal remain, would demonstrate that such a small portion of the body must necessarily belong to a creature formed in complete relation to that single part. When, therefore, in the sixteenth and seventeenth centuries, bones of remarkable form and dimensions were occasionally found, the scientific persons of the day were busied in conjectures, which generally ended, as mere conjectures must do, in a conviction that all was uncertainty. Thus, in the time of James the First, Lord Cherbury was appointed by the King to make inquiry touching some bones found near Gloucester. Bishop Hakewill, in his account of this discovery, evidently considers that no very satisfactory conclusions could be deduced from the circumstances which had excited sufficient attention to demand an investigation by the authority of the King himself. "His lordship shewed me the bones he had collected, which were a huckle-bone, part of the shoulder-blade, some parts of a tooth, and the bridge of the nose, all of a huge bigness: but his lordship's opinion was, that they were not the bones of a man, but of an elephant, because Claudius, who brought elephants into Britain, did build that city, for which he voucheth Ponticus Verunticus de rebus Britanicis, who saith, the ancient name of the city was Claudicestria: and Mr. Camden, as you rightly observe, saith, that the Romans had a colony thereabout. His lordship told me, that these bones were found mingled with those of oxen, sheep, and hogs, and he shewed me the tusk of a boar found amongst them. There was a great square stone lying by them, which

we conceived might be the upper stone of an altar, and that the bones were the relics of some great sacrifice celebrated there. The bridge of the nose was what confirmed his lordship's, and my opinion, that it could not be that of a man, for it did rather seem to be a bone very apt to bear up the long snout of an elephant. His lordship further told me, that Dr. Harvey, a great anatomist, opined, that they were the bones of some great beast, as an elephant. Dr. Clayton, his Majesty's professor of physic at Oxford, was of the same opinion. One of the teeth of this pretended giant, by the special favour of my Lord of Gloucester, I had the happiness to see; which I found to be of a stony substance, both for hardness and weight; and it should seem, by his lordship's letter to me, that he himself was not confident that it was the tooth of a man *."

The discovery of elephants' bones in almost every country doubtless kept alive the popular notion that giants were once common upon the earth. "Certain bones of the elephant have more resemblance," says Cuvier, "with those of man, than have those of the more common animals: and thus, some skilful anatomists even have been led to mistake them for human bones †." If men of science therefore have fallen into such an error, we can easily imagine how the uncultivated, with the ordinary tendency to the marvellous, and above all, not understanding how elephants could have existed in large quantities in Europe, should have believed, whenever such bones were found, that the tomb of a giant had been brought to light. The superstition has been the same in all countries. Bones of elephants, and of other extinct species, have been found in Asia. In

* Bishop Hakewill's Apology.

† Ossemens Fossiles, tom. i. p. 75.

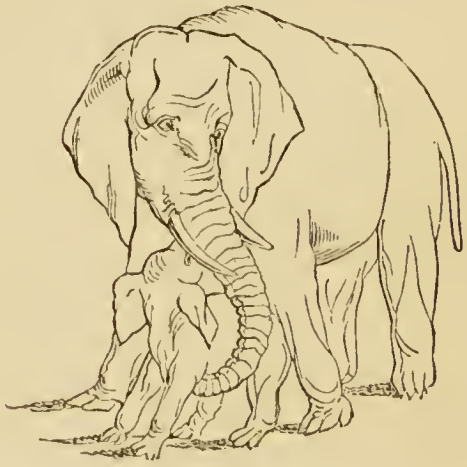
the year 1358 (Hegira 760), the Emperor Ferose III., constructing a canal to water the countries of Sirhind and Munsurpoor, "the workmen were in this place employed in digging to a great depth, when they found some immense skeletons of elephants in one place, and in another those of a gigantic human form, the arm-bones of which measured one yard. Some of the bones were in their natural state, and others petrified *."

The popular belief of the middle ages did not ascribe the existence of giants only to the times of antiquity. It was natural to associate great courage with extraordinary stature; and thus, Roland, and many other heroes of chivalry, were supposed to be men of gigantic dimensions. Francis the First, to prove the truth or falsehood of the tradition regarding Roland, opened his tomb, and putting the armour of the hero "upon his own body, found it so to fit him as thereby it appeared that Roland exceeded him little in bigness and stature of body, though he himself was not exceedingly tall or stout †." The French King dissipated the popular delusion by actual examination: but the belief in recent giants did not disappear throughout Europe; for bones of elephants continued to be found in considerable quantities; and these, we perceive, were easily mistaken for human remains.

Bishop Hakewill, who laboured with great earnestness to prove that the bones found at Gloucester were not those of a giant, assigned them to an elephant brought into Great Britain by Claudius. In the same manner, whenever the remains of elephants were discovered in Italy, there were many writers ready to trace the progress of Hannibal by these supposed relics of the wars of the Carthaginians and

* Dowe, i. 39. † Bishop Hakewill.

Romans. They were supported also in this theory by the fact, that great quantities of elephants and other large animals were destroyed in amphitheatres. At first view there appears to be considerable plausibility in this notion; and it is indeed more than probable that some of these remains of elephants may have actually belonged to animals that were used in war, or that perished in the circus. There can be no doubt also that this quadruped was bred by the Romans in a state of domestication *. It is probable also that the practice extended throughout the Italian peninsula; for we have been favoured with a copy of a representation at present existing on the walls of Pompeii, of a female elephant suckling her young one, which picture exhibits a perfect acquaintance with the mode in which the little elephant receives sustenance from its mother,—a fact of which the naturalists of the last century were wholly ignorant †.



Female Elephant and her young one; from Pompeii.

* See page 87. † See page 89.

But, however large the number of elephants which were associated in Italy with the operations of man, there can be very little doubt, as we hope to shew in the succeeding pages, that the greater portion of the fossil remains of this animal must be assigned to a period of much higher antiquity than those of Roman or of Grecian power: that they belong in fact to a period when man himself was either not an inhabitant of the earth, or the human race was confined to some continent or island at present undiscovered; when the climate of Northern Europe was not unfitted for the constant abode of the present animals of the Tropics, who, in regions where the lichen now furnishes a scanty subsistence to the reindeer, then browzed in security upon the splendid palms which characterise the southern hemisphere;—or, coming down to a more recent period, but a period still antecedent to history, when the Siberian elephant was clothed with long hair, and with thick wool, to enable him to bear the increasing severities of an Arctic winter. These are facts which it appears to us that the science of geology has established with tolerable certainty; and they open to us a field of inquiry, almost too vast indeed for human capacity, but one in which man cannot hesitate to apply, with the utmost diffidence and caution, those powers of induction which have been bestowed upon him,—not to flatter the pride of human learning, but to carry forward that spirit of inquiry, by which, having been raised to what he is, he may confidently hope to go onward in the same survey of the wonders of nature of which the wisest have only yet received a faint revelation.

The ancients were not very diligent observers of the appearances which the earth presented of its unrecorded history. Pliny, however, mentions that Theophrastus has related the finding of ivory of a

black and white colour *. In the seventeenth and eighteenth centuries, bones of elephants are noticed to have been found in considerable quantities in Rome and its immediate neighbourhood. At an earlier period such remains had been referred, as was usual in the middle ages, to the existence of giants. The pretended body of Pallas, the son of Evander, found under the Emperor Henry III., about the middle of the eleventh century, and which is stated to have exceeded the walls of Rome in height, was, there is little doubt, the remains of a large elephant. It is to be noticed, especially, that tusks of extraordinary dimensions were discovered near Rome; one of ten feet long and eight inches diameter was found in 1769. Other tusks have been dug out on the banks of the Tiber and near the port of Ostia, and fragments of nearly a foot in thickness are in a cabinet in the Roman College. On every road leading from Rome, tusks and other remains of elephants have been discovered—some in alluvial soil, some surrounded by volcanic earth, and some in the beds of rivers. These remains were often accompanied with fragments of the rhinoceros. When the tusks and bones of elephants have been discovered in places celebrated in the wars of the Carthaginians and Romans, they have naturally enough been considered as monuments of the great battles recorded by historians. Thus, a tusk found in 1808, in the marsh of Ancona, was considered to be a relic of the defeat of Asdrubal upon the Metaurus. Innumerable quantities of elephants' bones, mixed with those of the rhinoceros and the hippopotamus, have been found throughout Tuscany. On the road from Incisa to Levane, where Hannibal halted his army previous to the battle of Thrasymene, elephants' bones were discovered in great numbers, and they appeared to indicate the progress

* Nat. Hist. lib. xxvi. cap. 18.

of the Carthaginian invader ; but when we recollect how the numbers of the Carthaginian elephants were reduced by battle and fatigue, and that their great captain passed the Arno with one only remaining to him, the imagination has less difficulty in referring these large deposits of bones to an age preceding history, than of believing that the course of an army should have left such remarkable traces for more than two thousand years. An entire carcass, indeed, was found at a very short distance from the Trebia, in the road that Hannibal must have passed; but the head of a rhinoceros was lying at a very short distance, to dissipate the belief that the elephant had belonged to his army. The great abundance in which such remains have been found in Italy, is indeed the principal circumstance which would induce us to consider that the operations of man, upon however large a scale, have not left such enduring traces. It is not reconcilable to our ordinary notions of the extent and the duration of the passing impressions which man leaves behind him on the external world, to believe that the march of an invader through Italy, during a dozen years, should have accumulated the remains of elephants of war in such singular profusion, or that these bones only should exist to attest his progress. Where are the *débris* of the Roman horses who were opposed to these elephants ; or where are the bones of the legions who must have perished in that protracted struggle? We have no record that these have been collected in large quantities or have been preserved in the cabinets of the curious ; while in the public library at Florence, and in that of the university at Pisa, there are elephants' bones out of number and tusks in considerable quantities. Indeed they are so common in the small earth-hills which border the upper part of

the valley of the Arno, that the peasants used formerly to employ them, united with stones, in building the little walls round their farms. Many of these remains have been found in that particular species of sand called *tufo* by the Italians, which contains marine substances and wood in a state of petrifaction; others have been dug up at the base of small clay-hills filling the intervals of the calcareous chain, together with petrified and bituminized wood. Some of the bones in these collections have been those of very young elephants,—a sufficiently satisfactory proof that the living animals must have existed in a state quite incompatible with the limited numbers and the rapid movements of those under subjection to man—a state, in fact, of natural liberty that allowed of their indefinite increase. It is to be remarked, also, that in almost every case where elephants' bones have been discovered, the tusks have been found with them. We have seen that very soon after the elephant was known in Italy, ivory was used in the arts; and it is not to be conceived that while a large price was paid for this material, wherever sculpture was practised, the carcass of a single elephant should have been suffered to rot without securing this valuable substance for purposes of commerce.

In Sicily and in Spain the bones of elephants have been discovered at various times, in large quantities. As the animal was used in war in these regions, such remains were at first naturally considered as the memorials of ancient battles. In France, also, they have been found scattered through the country; and it is remarkable enough, as supporting the theory that they had belonged to domesticated elephants, that those which were found the earliest, or which at least were first noticed, were in the neighbourhood of the Rhone, in parts where Hannibal is known to have.

passed, or through which Domitius Ænobarbus may have led his elephants against the Allobroges. The bones which were found in the fifteenth century were referred, as was the common practice, to giants; and a celebrated skeleton, which was dug up in Dauphiné, in the reign of Louis XIII., gave rise to a dispute which agitated the scientific world to an extent almost unequalled in the annals of controversy. The physicians and surgeons of that age were ranged on opposite sides,—some maintaining that the bones were those of the giant Teutobochus, and others that they had belonged to an elephant. It appears that a surgeon of the name of Mazurier, having possessed himself of some bones which had been dug out of a sand-pit in Dauphiné, exhibited them at Paris and in other places; and to excite the public curiosity distributed a little pamphlet in which it was gravely stated that they had been found in a sepulchre thirty feet long, on the upper stone of which was written "*Teutobochus rex.*" History has informed us that this was the name of the King of the Cimbri, who fought against Marius; and the surgeon added, that a quantity of medals had been found in the same place, which bore the head of the Roman Consul and the initial letters of his name. Some of the medals were at length produced (the forgery of medals was at that time very extensive), when it turned out that the letters of the initials were Gothic and not Roman, and it was demonstrated that several of the bones (a *femur*, a *tibia*, and an *astragal*) were essentially different from those of the human body. Messrs. Hebicot and Riolan were the leaders of this controversy; and the latter shewed, skilfully enough for a man who had never seen an elephant's skelcton, that the bones must have belonged to that quadruped *. Riolan maintained in one of

* Cuvier gives a list of twelve pamphlets published during this fierce and virulent contest.

his publications that Dauphiné was filled with such bones. In spite, however, of the ridicule which was thrown upon the imposture of Mazurier, the exhibition of the remains of giants was too profitable to be given up. In 1667 another skeleton was brought to light, each of whose teeth weighed ten pounds ; and a French merchant brought into England in the time of Sir Hans Sloane a giant's skeleton from Valence *.

As we approach the period when scientific knowledge rendered such deceptions impracticable, we find that enormous bones, which were constantly dug up in France, were properly described as belonging to elephants. In digging the canal de *l'Ourcq*, which traverses Paris, two tusks and two jaws of elephants were found at three different places, in black earth, eighteen feet below the surface, which M. Cuvier describes as the largest he had ever seen. Many have been dug up in other parts of France, at considerable depth, surrounded by earth of undoubted volcanic origin. These, with many other remains of elephants discovered in France, are preserved in the Museum of Natural History at Paris. Throughout Belgium elephants' bones have been often discovered, as well as in Switzerland. The giant of Lucerne, disinterred in 1577, is almost as celebrated as Teutobochus. Felix Plater, a distinguished professor of medicine at Bâsle, examined his remains by order of the council of Lucerne ; and having designed a whole human skeleton of corresponding dimensions, found that this ancient denizen of the city was nineteen feet high (about twenty feet English). The council of Lucerne were too proud of so great a patron not to

* We have been famed of old for our national curiosity—not a bad trait in our character when under proper direction :—" When they will not give a doit to relieve a lame beggar, they will lay out ten to see a dead Indian."—*Tempest,* Act ii. scene 2.

render him due honour; and they therefore employed him as a supporter of the arms of the city. The design made by Plater, and some of the bones, still remain in the college of Jesuits at Lucerne. Blumenbach examined them a few years ago, and distinctly recognised them as the bones of an elephant *.

"Germany," says Cuvier, "is, without contradiction, the country, of all others in Europe, in which fossil bones of elephants have been recorded to have been found in great abundance,—not probably that more have been there brought to light than in other countries, but that there is scarcely a canton that does not possess some well-informed man, capable of collecting and publishing the details of every interesting discovery †." Thus, in 1784, Merck reckoned eighty places at which such bones had been found; and Blumenbach now computes them at two hundred. A very celebrated skeleton was dug up at Tonna, in Gotha, as early as 1696, from a depth of fifty feet, of which the tusks were eight feet long. There was a theory in that day that such remains were sports of nature—mere earthy concretions; and a learned anatomist of Padua, Falloppio, carried the notion to such an extent as to believe that petrified shells were generated by fermentation

* A giant of twenty feet high was something, indeed, for the people of Lucerne to be proud of. Goliath is recorded to have been about eleven feet, and the giant Gabbarus of Pliny, who lived under the emperor Claudius, was little more than ten feet. In modern times Commodore Byron describes the Patagonians as about eight feet; and Scaliger mentions that he saw at Milan a man more than nine feet high. The Irish giant was nearly eight feet in height. But these examples are nothing compared to the citizen of Lucerne.

† Ossemens Fossiles, tom. i. page 118.

in the spots where they were found, and that even the vases discovered at Monte Testaccio at Rome were natural impressions stamped upon the soil*. When such theories were current in the world, it is not surprising that one man of learning only at Gotha (Teutzel, the librarian of the prince) was reasonable enough to maintain that the bones at Tonna were those of an elephant, and that they had been deposited there by some convulsion of nature. The notion that the earth spontaneously produced such substances was of course soon abandoned. But the people were still unwilling to believe that elephants were at one period natives of the European continent; so that when a skeleton was found in the North of Germany, through which a Roman army had never marched, the celebrated elephant which Haroun al Raschid sent to Charlemagne† was held to have died at that identical spot, and by some means or other to have got fifty feet below the surface, amongst stags' horns, shells, and the remains of aquatic plants, in the course of eight hundred years. During the last and present century, elephants' bones have been found in quantities too large to have belonged even to as many elephants as Pyrrhus or Hannibal had at once in their armies, unless they had perished at the same time and on the same spot. At Canstadt in Wirtemburg, upon the bank of the Necker, as many remains had been found by a soldier in 1700 as furnished sixty tusks; and in 1816, in the same canton, not six hundred paces from this very spot, was discovered a heap consisting of thirteen tusks and some jaws, placed one above the other with the utmost regularity, as if piled up by man. The largest of these

* See Lyell's Geology, vol. i. page 25. † See page 5.

tusks was a foot in diameter, and eight feet in length, although it had lost its root and its point; and each of the tusks formed a curve of three fourths of a circle—a distinguishing characteristic of the extinct species of elephant. All the basins of the great rivers in Germany, the Maine, the Danube, the Elbe, and the Weser, have furnished bones of elephants in large quantities; and their discovery, particularly in Bohemia, has often taken place when the rivers have carried away some portions of their banks.

England has had its giants, as well as the continent of Europe. Simon Majolus describes one whose bones were disinterred by a river in 1171; but our traditions are not rich in such matters, if we except the Gog and Magog of the City of London. The remains of elephants, however, have been discovered and known as such for a considerable period. It is probable that the bones of the larger quadrupeds were often mistaken for those of fish, being found in conjunction with fossil shells. Verstegan, a writer on English antiquities in the time of Charles II., says, "I have talked with such labouring men as usually have digged wells, and the deep foundations of buildings, and they all agree that they do commonly, in all places, find an innumerable quantity of these shells, some whole, and some broken, and in many places the great bones of fishes; whereof I have seen many*." Whether these 'bones of fishes' were really so is not material, as undoubted bones of elephants have been found in all parts of the kingdom. Many of these are indicated in the Map of England, published in 1819 by the Geological Society of London. Sir Hans Sloane possessed

* Restitution of Decayed Intelligence, &c. page 112, edit. 1673.

a tusk found in Gray's-inn-lane, twelve feet deep in the gravel. Quantities of elephants' bones were discovered in a marsh near the sea to the north of Canterbury; and large collections of such bones, with those of the rhinoceros, the hippopotamus, the stag, and the ox, were dug up in 1813, in Mr. Trimer's pits of brick-earth near Brentford. They are common in the midland counties. At Newnham, near Rugby, in 1815, three large tusks and bones of elephants were found, with two skulls of the rhinoceros. They are not unfrequent also on the eastern coast, and in the northern counties. In the cave of Kirkdale in Yorkshire, the bones of elephants were discovered by professor Buckland, mixed with those of the rhinoceros, the hippopotamus, the horse, the ox, and especially the hyena *. The northern parts of Ireland, Sweden, Denmark, Norway, and even Iceland, have furnished to the geologist the same materials of speculation.

But, if our wonder is excited when we have ascertained that the continent of Europe and its northern islands have furnished clear indications that the elephant, an inhabitant of high latitudes, was formerly indigenous in countries so little suited to his comfortable existence, our surprise will be still greater when we learn, that the nearer we approach the Arctic Circle, and particularly in Asiatic Russia, the remains of elephants are so abundant, as to prove that these inclement regions supported vast herds of them in distant ages. Many remains, which have been found in European Russia, are preserved in cabinets. But when we approach to Siberia, the deposits become so vast that it is unnecessary to collect individual specimens; and the inhabitants

* See Menageries, vol. i. page 140.

of these frozen regions have a traditionary fable to explain their constant occurrence. They hold that the bones, and the tusks, which they incessantly find in their agricultural operations, are produced by a large subterraneous animal, living in the manner of the mole, and unable to bear the light. They have named this animal *mammont*, or *mammooth*,—according to some authorities, from the word *mamma*, which signifies earth in Tartar idioms; or, according to others, from the Arabic *behemoth*, or *mehemoth*, an epithet which the Arabs apply to an elephant when he is very large. The fossil tusks which the Siberians find are called by them *mammontovakost*, the horns of the *mammont;* and they are so numerous, and so well preserved, particularly in the northern parts of the country, that they are employed for the same purposes as new ivory, and constitute an article of commerce, sufficiently important for the Czars to have reserved the monopoly. The Chinese have a similar fable of a subterraneous animal of prodigious size, which they call *tyn-schu*, signifying the mouse that hides. There can be little doubt that the origin of the tradition is the same as that of Siberia, for M. Klaproth states, upon the authority of a Chinese manuscript, that the bones of this animal, found only in the northern parts of China, resemble ivory in their whiteness, in the easiness with which they are worked, and as having no fissures. The profit which the people of Siberia derived from procuring these tusks, and the ease with which they might occasionally be obtained, when the great rivers, swollen by the mountain torrents, broke down their banks, excited a trading spirit of enterprise in Russia; and vast quantities were thus occasionally brought to light. As these remains were often discovered in the shallow parts of rivers, after

the great floods had subsided, it has been supposed that they were brought into Siberia by the mountain streams of India, where elephants still exist in large numbers. But, unfortunately for the credit of this opinion, the bones are found not only in the basins of those rivers that descend from the mountains of Chinese Tartary, but equally along the banks of the Don, the Volga, and the Jaïk, which flow from the north. "There is not," says M. Pallas, a traveller who has bestowed the greatest research upon this interesting subject—"there is not, in all Asiatic Russia, from the Don or the Tanaïs to the extremity of the promontory of Tchutchis, a single stream, a single river, above all of those which flow through the plains, on the banks or in the beds of which there are not found some bones of elephants, or of other animals equally strangers to the climate." It is this prodigious abundance of elephant remains in Asiatic Russia which at once shuts out the possibility that they belonged to animals attached to the expeditions of mankind. We have traced the march of the Mongol conquerors *; and we are confident that these princes, whatever power and magnificence we choose to ascribe to them, could never have brought together so many of these animals as would be necessary to furnish the bones found within the space of a very few miles, much less all those that have been scattered throughout this immense region †. It must be remembered,

* See chap. ix.

† A writer, who has collected with great diligence, but with little system, a number of facts relating to the employment of elephants by man, with a view to prove that all the remains can be traced to their marches in Roman, African, or Asiatic armies, or to their destruction in amphitheatres, has the following passage on the elephant bones of Siberia: "One of the most considerable historical convulsions, which may, very reasonably, be supposed

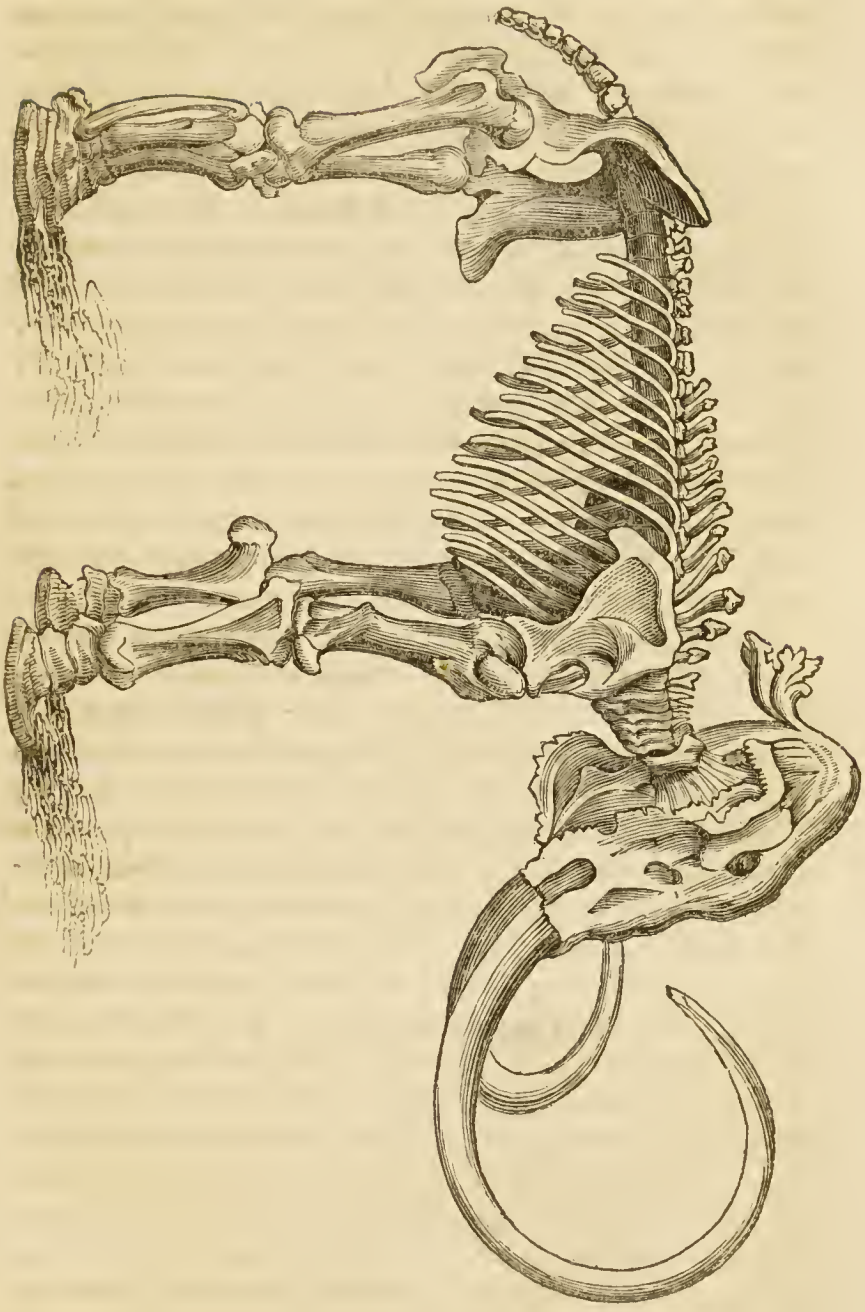
also, that in Russian Asia, as well as in Europe, these remains are very commonly found in conjunction with the bones of other wild animals;—that the bones of elephants are dispersed over the surface, very few entire skeletons remaining, as it were, in a sepulchre of sand;—and that they are often discovered lying amongst beds of marine fossils.

But another remarkable fact is connected with the discovery of the remains of elephants and other quadrupeds in Siberia, which has given rise to the most interesting speculations as to the former temperature of that region, and the nature of the catastrophe which caused this extensive animal destruction. In some places the bones of elephants have been found with pieces of flesh still attached to them. M. Pallas has given a circumstantial relation of the disinterment of an entire rhinoceros, whose flesh, skin, and hair were still remaining. This remarkable circumstance took place at Vilhoui, in 1771. An elephant, almost entire, whose skin was partially covered with long hair, was subsequently found on the borders of the Alaseia, a river which flows into the Icy Sea, beyond the Indigirska. But the most ex-

to have supplied Siberia with a great number of elephants, is the expulsion of the Mongols from China, A.D. 1369. Not one syllable of the particulars of that great event has been met with. But when we contemplate the mighty establishments of the grand Khan's court, and of his numerous empresses and children, whose travelling carriages were drawn by elephants, a multitude of those beasts probably accompanied them when they were driven into their original country. As to *numbers*, this source alone might possibly account for all the fossil remains. In the terror, confusion, flight, and pursuit during this disastrous catastrophe, some elephants may have escaped from their guides, and have wandered in Siberia, till accident or age destroyed them: it has been shewn that they bear cold which kills men and horses."—*Ranking's Wars and Sports.*

traordinary discovery of this nature, which has probably ever been made, was that of the Lena elephant, found in 1799. It appears, from the narrative of M. Adams (an associate of the Academy of St. Petersburgh), which was originally published in the year 1805, in the Journal du Nord, that a Tongoose fisherman, of the name of Schumachoff, was accustomed, after the fisheries of the Lena were over, to search the banks of the river, where it falls into the Icy Sea, for the purpose of finding the common article of Siberian traffic, the horns of the Mammoth. In 1799, he one day perceived, in the midst of the fragments of ice, a shapeless mass, differing considerably in appearance from any object which he had previously noticed. The following year he observed that this body had become more disengaged from the ice; and towards the end of the succeeding summer, when he again reconnoitred it, he distinctly saw the flank of an elephant, and an entire tusk: but it was five years from his first observation before the fisherman possessed himself of the fruits of his discovery. He was partly deterred from approaching the elephant, by the superstition of his family, and partly by the difficulty of reaching it through the floating ice. At length, the icy fragments between the shore and the mammoth having melted away, this enormous mass was driven upon the coast upon a bank of sand. The fisherman immediately possessed himself of the tusks, which he sold for fifty rubles; and, unconscious of the value which science would attach to such a discovery, he left the remainder of the body to be devoured by the white bears and the wolves, and to be cut away by the natives as food for their dogs.

In the seventh year after it was first observed, M. Adams arrived at the spot. The skeleton was



Fossil Elephant of Lena.

then entire, with the exception of a fore leg; the greater part being kept together by the ligaments and a portion of the skin. One of the ears was furnished with a tuft of hair, the pupil of the eye was still discernible, and the brain was found in the cranium. The neck was covered with a long mane, and the skin of the body with black hair mixed with a reddish sort of wool: so considerable was the quantity of this hair and wool, that more than thirty pounds weight was recovered from the humid soil, into which it had been trodden by the animals which had been engaged in devouring the flesh. The head, without the tusks, which were nine feet long, weighed more than four hundred pounds. M. Adams was enabled to repurchase the identical tusks which had been sold by the fisherman; and the whole remains were deposited in the Academy at Petersburgh.

Upon the fossil elephants of Siberia, and upon this elephant in particular, Mr. Lyell has the following remarks:—"That the greater part of the elephants lived in Siberia after it had become subject to intense cold, is confirmed, among other reasons, by the state of the ivory, which has been so largely exported in commerce. Its perfect preservation indicates, that from the period when the individuals died, their remains were either buried in a frozen soil, or at least were not exposed to decay in a warm atmosphere. The same conclusions may be deduced from the clothing of the mammoth, of which the entire carcass was discovered by M. Adams on the borders of the Frozen Ocean, near the mouth of the river Lena, inclosed in a mass of ice. The skin of that individual was covered with long hair and with thick wool, about an inch in length. Bishop Heber informs us, that along the lower range of the Himalaya mountains, in the north-eastern borders of the Delhi territory, between

latitude 29° and 30°, he saw an Indian elephant covered with shaggy hair. In that region where, within a short space, a nearly tropical and a cold climate meet, dogs and horses become covered, in the course of a winter or two, with shaggy hair; and many other species become, in as short a time, clothed with the same fine, short shawl-wool, which distinguishes the indigenous species of the country. Lions, tigers, and hyenas are there found with elks, chamois, and other species of genera usually abundant in colder latitudes*."

There is not a canton in Siberia, according to Pallas, which does not possess the fossil bones of elephants; and what is still more remarkable, a large island in the Icy Sea, opposite the shore between the mouths of the Lena and the Indigirska, has been stated to be *composed* of these remains, mixed with those of the buffalo and the rhinoceros†. In a second island, about five leagues distant from the first, these bones are also found; but, in a third, about five-and-twenty leagues farther to the north, they are no longer to be traced. Nearly under the same latitude as the island mentioned by Billing, in the passage discovered by Kotzebue to the north-east of Behring's Straits, there is a similar island of ice and sand, equally covered with the bones of elephants. Fossil ivory is there extremely common; and the natives employ it in the formation of tools and utensils, in the same way that they use the teeth of the Morse‡.

One of the most striking peculiarities connected

* Lyell's Geology, vol. i., page 99. For an account of the influence of temperature upon the growth of hair in quadrupeds, see Menageries, vol. i., page 50.

† Billing's Voyage; quoted by Cuvier.

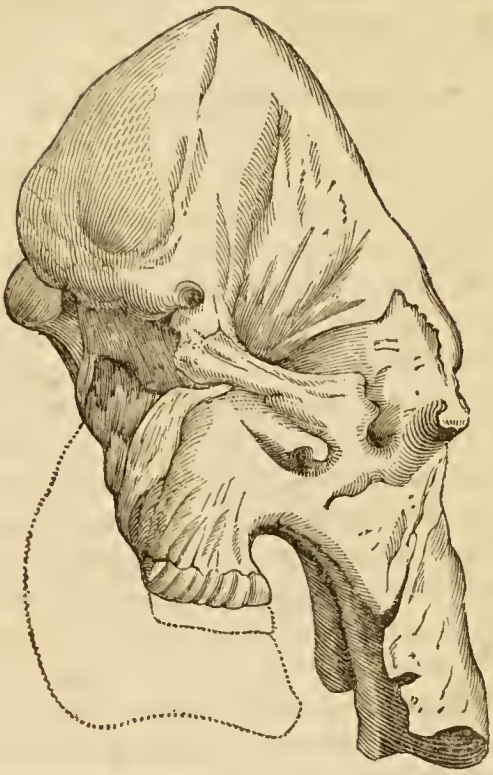
‡ Kotzebue, Voyage, tom. iii., page 171.

with the fossil bones of elephants is, that we have scarcely any record of their being found in those countries where the race still exists,—in Southern Asia, and in Africa. In America, on the contrary, where the animal has never been known since the discovery of Columbus, they have been dug up in considerable abundance. In North America they have been discovered, especially upon the borders of the Copper River, of the Ohio, of the Susquehana, and in Carolina. Throughout the north-eastern States, particularly, the bones of the elephant are dug up in the same places with those of the mastodon, one of the largest of the extinct quadrupeds; and they have been generally found, upon comparison with the remains of this race, in a more advanced state of decomposition. Of such bones there is an immense deposit at Kentucky, about thirty-six miles from the confluence of the Ohio. In Mexico, also, bones of elephants have been found; and it is a remarkable fact, that in a Mexican hieroglyphic of undoubted authority, a sacrificing priest is represented with his head covered with a casque, in which the trunk of an elephant may be traced; or at least of some animal possessing a form approaching this great characteristic of the elephant species. "Had the people of Aztlan," says Humboldt, "originally from Asia, preserved some vague notions of the elephant? or had their traditions (which appears to be much less probable) gone back to the epoch when America was inhabited by those gigantic animals whose skeletons are found buried in the marly lands, upon the back even of the Mexican Cordilleras? Perhaps there exists in the north-west part of the new continent, in countries which neither Hearne, nor Mackenzie, nor Lewis have visited, an unknown animal of the *pachydermatous* order, hold-

ing a middle place, by the configuration of his trunk, between the elephant and the tapir*."

* Vues des Cordillères; Planche xv.

Mexican Hieroglyphic.



Skull of the Fossil Elephant.—Elephas Primigenius, BLUMENBACH.

CHAPTER XV.

THE FOSSIL REMAINS OF ELEPHANTS.—CONCLUSION.

THE unwearied researches of modern naturalists, and of M. Cuvier beyond all others, have established the fact that the fossil elephant was an essentially distinct species from the elephants of Africa and of India. Of course such a conclusion could not have been arrived at without the most diligent comparison of the remains of the extinct species with skeletons of those which are existing; and it is evident that these comparisons could not have been relied upon had they been founded only upon a few specimens of the

fossil elephant. But the great abundance of bones which have been collected in Europe, in Asia and even in America,—which have been preserved in cabinets, and described with the utmost minuteness, —and above all, which M. Cuvier has examined himself with that profound skill in comparative anatomy which renders his authority indisputable,—leave no doubt whatever upon the soundness of the conclusions at which he has arrived. It appears then, that the Fossil Elephant (*Elephas primigenius*, BLUMENBACH)—the Mammoth of the Russians, was from fifteen to eighteen feet in height, covered (at least in the species which existed in Siberia) with two sorts of clothing—a thick wool, four or five inches long, of a fawn colour, and partially with long rigid hair forming a mane extending down his back. His resemblance to the Indian elephant, as distinguished from the African, was principally in the elongated conformation of his skull, and the cavity of his forehead. But he differed from both the living species, 1st. in the laminæ of the molar teeth (the teeth themselves being generally larger), which are narrower and more numerous, and separated by slenderer lines of enamel, less festooned than in those of the Indian species*; 2ndly, in the forms of the lower jaw, and of many other bones; and, lastly, the most important distinction, in the much greater length of the *alveoles* (sockets) of his tusks. Cuvier considers that this striking difference would singularly modify the whole figure, particularly the organization of the trunk, and give the animal an essentially different physiognomy from that of the Indian species†. The tusks of the fossil elephant appear to have been very large, (per-

* See page 84.

† For the fullest details of the comparison between the fossil remains of elephants and the analogous parts of the existing species, see Cuvier, *Ossemens fossiles* (edit. 1821), tom. i. fol. 159 to 204.

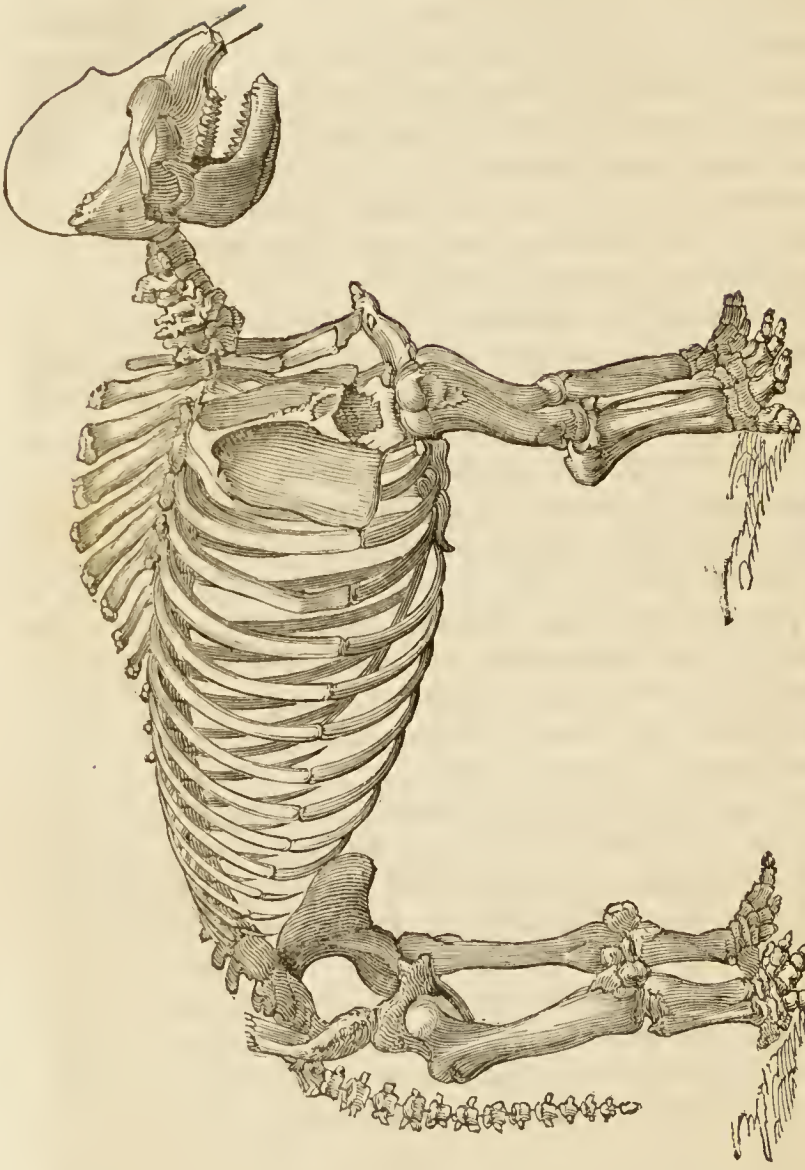
haps not of a larger size than those of the existing species would attain to, if undisturbed by man,) turned outwards, and more or less arched into a spiral form. Its general proportions were heavier and more clumsy than those of the living races; and it appears, particularly in the Lena elephant, that the soles of the feet were considerably dilated, as if pressed out by the weight of the body.

However curious may be the facts which we have briefly laid before the reader, to shew that elephant remains being distributed throughout the world in places now uninhabited by that race of quadrupeds, there was a period in which this animal was indigenous to Europe, to the Northern parts of Asia, and even to America,—these facts acquire a double interest when they are viewed in connexion with other circumstances, resting upon similar evidence, which exhibit the condition of animated nature at the time when these animals lived. The fossil remains, such as we have described, are generally found in sandy and slimy plains,—in the loose and superficial strata of the earth,—in places which are washed by brooks and rivers; but never in the more elevated regions amongst the primitive, secondary, or tertiary chains. In these slightly consolidated strata, called by geologists diluvian formations, are the bones of the elephant discovered mixed up with other bones, some of quadrupeds of existing genera, and some, which, as far as we know, are utterly extinct. To the very borders of the Icy Sea, and even in the isles within the Arctic Circle, we find remains which have a general resemblance to those of the quadrupeds which now inhabit the torrid zone; but yet no one species is absolutely the same. The bones of the elephant are discovered in the same strata with those of other gigantic pachydermatous animals,—the rhinoceros and the hippopotamus—of the horse,

and many large ruminating quadrupeds,—of the lion, the tyger, and the hyena. With these remains, which in their general configuration greatly resemble those of existing quadrupeds, are found the bones of the mastodon, the megatherium, and the megalonyx, now extinct, whose forms and habits have been tolerably well defined by anatomical science. It would be satisfactory to take a general view of the more remarkable of these remains, particularly of those of the extinct genera.

The great mastodon (*Mastodon giganteum*) * is apparently the largest in size of all the fossil species; not higher, indeed, than the elephant, but of larger limbs and a longer body. As far as we at present know, its remains have only been found in North America, between the Mississippi and Lake Erie. The French naturalists, about the middle of the last century, called it the animal of the Ohio, because a French officer had discovered some of its bones on the bank of that river, and conveyed them to Paris, where they are still preserved. Upon the English conquest of Canada considerable portions of such bones were sent to London; and William Hunter demonstrated, that they essentially differed from those of the elephant. The most satisfactory discovery of these remains was however made in 1801, by Mr. Wilson Peale, founder of the Museum of Natural History at Philadelphia. From the bones which he was able to collect on the river Hudson, he formed two complete skeletons, whose inspection leaves no doubt that in the general form of the body—the nose prolonged into a trunk—the large tusks, of the nature of

* This animal was sometimes called "Mammoth" in the books of Natural History of the last century, and sometimes "Carnivorous Elephant," each name involving an error. Cuvier gave it the present name, from two Greek words signifying mammillary teeth. The animal was also called, by the Indians, Father of Oxen.



Skeleton of the Great Mastodon.

ivory, which arm the upper jaw—the absence of all canine and incisive teeth in the upper jaw—and the five toes of each foot,—the mastodon, although differing in many essential particulars, had a great general resemblance to the elephant. The most remarkable peculiarity of the mastodon consists in the monstrous bulk of the molar teeth, whose size, without reference to the small number possessed by the animal, have led to gross exaggerations of his general magnitude. Cuvier considers that he has determined five other fossil species of the mastodon, the most remarkable of which is the mastodon of narrow teeth (*Mastodon angustidens*), whose teeth have been found in the temperate parts of Europe as well as in South America. The substances known in commerce as turquoises of Simorre, and Oriental turquoises, are portions of the teeth of this mastodon, tinted with iron.

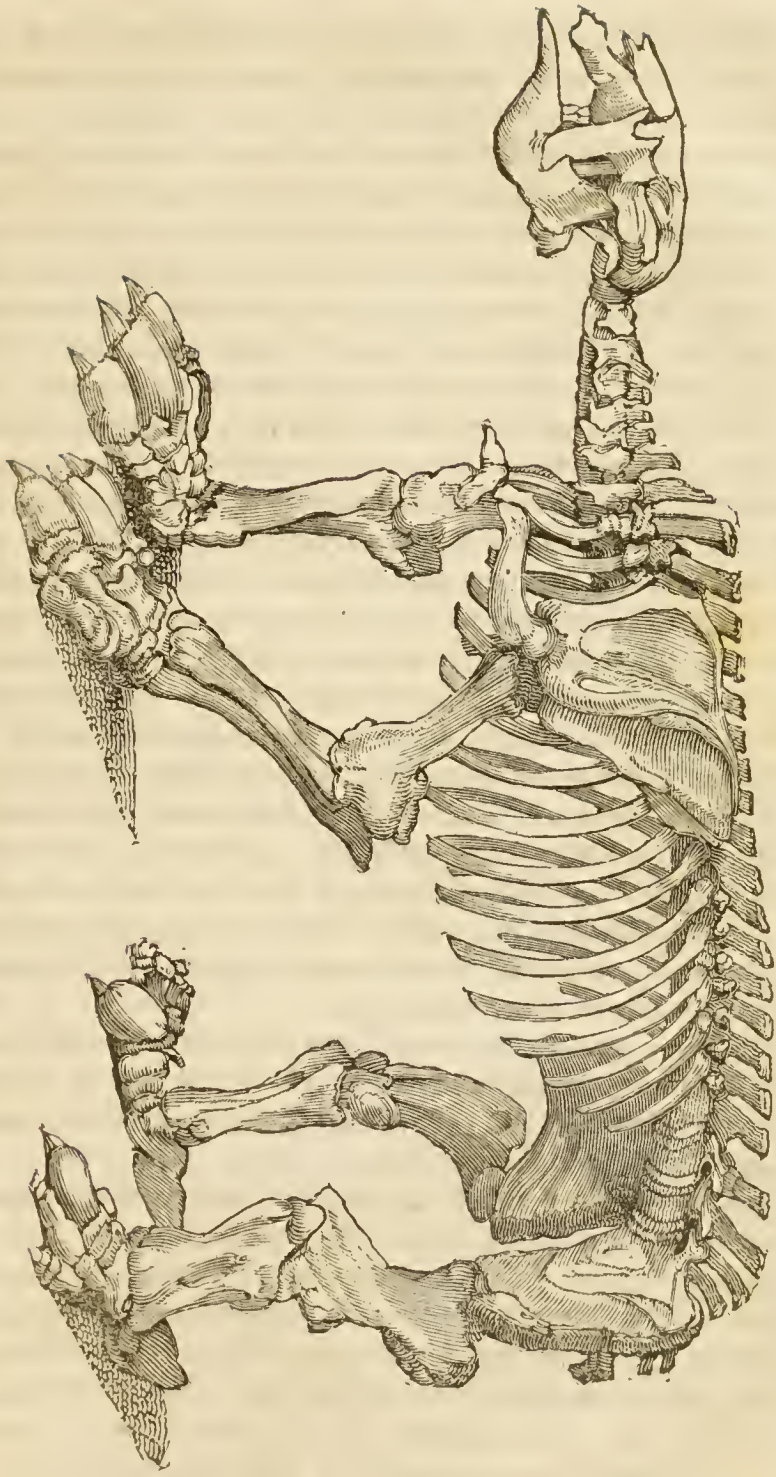
At the same era with the elephant and the mastodon, lived the genera, little inferior in strength and size, of the rhinoceros and hippopotamus. Of the Rhinoceros of great size there were three species, one, (*Rh. tichorhinus*) found in England, in Germany, and, like the elephant, as far as the borders of the Icy Sea; a second (*Rh. incisivus*) belonging to the more temperate countries; and a third (*Rh. leptorhinus*) principally found in Italy. There was a fourth species little bigger than a pig. The large fossil hippopotamus bears a very great resemblance to the existing species in Africa; and of this race, there was also a small one, not larger than a wild boar. Joined with these, was a Tapir, double, if not treble the size of the existing species of America. To these *pachydermatous* quadrupeds has been added another genus, of which only a lower-jaw has been found, called *Elasmotherium*.

That the Horse existed at this era there can be no

doubt. The teeth of this quadruped are found in myriads in most of the large deposits of animal remains.

The numerical proportion of the *ruminating* animals does not appear to have differed materially from that of the existing races: but it is a remarkable fact, that although species, having a relation with the ox and the deer, were more abundant than at present, some of the quadrupeds, which have multiplied most extensively under the dominion of man, such as the sheep, the goat, and the camel,—and others which we now find in a wild state, such as the antelope, and the cameleopard,—have left no traces of having lived at the period we are describing. Amongst the remains of deer, commonly found with other fossils, the elk, with gigantic antlers, is the most common, particularly in Ireland. Some of the enormous horns belonging to this species measure, it is well known, twelve, and even fifteeen feet from tip to tip. Near Verona, another species has been found whose horns are larger than the stags of Canada. It is a singular fact also, that in the same beds with the bones of the rhinoceros and the elephant, the inhabitants of hot countries, have been found those of a stag so accurately resembling the rein-deer, that it is difficult to assign any distinctive character to the fossil species. In the same manner, the shores of the Mediterranean have furnished the bones of two species of *Lagomys*, an animal which, at the present day, only exists in Siberia.

But the most extraordinary family of extinct animals whose bones have been discovered, is that of the *Megatherium*. It consists of two species—the Megatherium, properly so called, and the Megalonyx. They appear to have had something of the formation of the sloth, with the size of the ox. Their stout limbs were terminated by five thick toes; some of which were provided with an enormous claw. Their



Skeleton of the Megatherium.

thick and ossified skin was divided into scales, closely fitted into each other. The form of the teeth shews that these animals fed on vegetables and roots. Cuvier thinks that they were furnished with a short trunk. The remains of these two quadrupeds have only been found in America; but it is considered that an animal of the same order, and of equal size and power, existed in Europe. The proof rests upon a single claw dug up near the Rhine.

The class of gnawing animals (*Rodentia*), of which remains have been found very generally distributed, though not very accurately defined, has principally consisted of unknown species, apparently weak and small. The carnivorous animals, on the contrary, appear to have been fully equal, if not superior, in power to the existing races. Their remains are principally found in large caverns, in quantities which offer the most astonishing evidence that they were assembled together in these places upon the occurrence of some great convulsion in nature. Bears, hyenas, tigers, panthers, wolves, foxes, gluttons, genetts,—animals some of whom are now separated in their habitations by seas and oceans, such as the hyena of the Cape, and the glutton of Lapland,—were in these caverns gathered together to die one common death *.

We have thus very briefly noticed the principal animals whose remains are found in that mass of loose earth which is called diluvial; "which covers our large plains, fills our caverns, and obstructs the cavities of many of our rocks †." It is to be remarked, that not a single remain of a quadrumanous animal—not a bone, or a tooth of any species of ape—has been yet perceived amongst this great variety of animal bones. Above all, not the slightest particle or relic of Man has been found in these diluvial beds, which are

* See Menageries, vol. i. p. 145.

† Cuvier, sur les Revolutions de la Surface du Globe.

covered so extensively with other animal remains. This fact gives a new interest to all that we have already stated on the subject of fossil bones.

In tracing the elephant through the historical eras, we have seen how essentially his condition has been modified by his connexion with man, and how his existence on the surface of the globe has been regulated by the wants of the human species. It is necessary to revert to this consideration, to understand what was the situation of this quadruped when he lived without the chance of being affected by human agency—when, in fact, man either did not exist at all, or, as far as we can judge, was not brought into contact with any of the quadrupeds whose remains are so profusely scattered throughout the earth. That such was the order of things in the period immediately preceding that era when traces of the existence of man begin to be discovered, the science of geology furnishes the most distinct evidence. There are doubtless some slight differences of opinion with respect to the antiquity of the human species; but all geologists agree in referring the remains of man and of his works "to strata confessedly of the most modern order, and it is never pretended that our race co-existed with the assemblage of animals and plants, of which all the species are extinct*." The most ancient traces of man are almost universally found in peat, which substance is formed of the wreck of immense forests, that history and tradition alike shew covered the earth in the earliest periods of man's dominion. "The archives of nature are in perfect accordance with historical records; and when we lay open the most superficial covering of peat, we sometimes find therein the canoes of the savage, together with huge antlers of the wild stag, and horns of the wild bull. Of caves now open to the day in

* Lyell's Geology, vol. i. p. 154.

various parts of Europe, the bones of large beasts of prey occur in abundance; and they indicate, that at periods extremely modern in the history of the globe, the ascendancy of man, if he existed at all, had scarcely been felt by the brutes*." There is no reason whatever to conclude that the bones of man are more perishable than other animal deposits; for in ancient fields of battle they have been found as perfect as those of horses buried in the same grave†. It is therefore more than probable that had man existed contemporaneously with the fossil elephant, even in the first rude condition of a solitary hunter, his bones would have been found in the same localities. At any rate, it is perfectly clear that when the fossil elephant existed, supposing for a moment that man was at the same time present upon the globe, he was not present with the strength of civilization, by which power alone he is enabled greatly to influence the condition of the inferior animals. He was not here as a builder,—for not a brick, or a carved stone, or a hewn block of wood, or a single tool, can be traced beyond the historical era;—he was not here as a navigator, for otherwise his skeleton would unquestionably have been found in those sub-marine deposits which are so full of other animal remains. The forms of ancient vegetation have been preserved indestructibly from the most remote ages. In our own coal-pits we daily find impressions of enormous leaves, especially of ferns, that far exceeded in luxuriance any of the vegetable productions of the tropical regions. But there, as well as in much more recent formations, no trace whatever exists of that being whose mental energies, when combined in the social state, have so greatly changed the modern appearances of the globe.

When comparative anatomy established the forms

* Lyell's Geology, vol. i. p. 154. † Cuvier, sur les Revolutions.

of the fossil animals—when it shewed that, whatever slight differences of structure might be discovered between the extinct and the existing species, the elephant and the mastodon were herbivorous quadrupeds, provided with a trunk and armed with enormous tusks, and that the lion and the hyena were carnivorous, having incisive teeth, and powerful claws—it became evident that the earth upon which they lived was governed in all essential particulars by the same physical laws which now exist. The presence of certain organs in the fossil quadrupeds points out that their use was associated with certain instincts, and that therefore the means of gratifying these instincts, which the material world offered, must have been the same as at present occur to these animals in a state of nature. The elephant, for instance, must have lived in marshy plains amidst luxuriant forests, fertilized by rivers and fresh-water lakes; and the lion must have roamed, as at present, over tracts covered with abundant grasses, to procure the animal-food which was necessary for his existence. The discovery of large deposits of the bones of elephants, and horses, and oxen, and stags, establishes the fact, that vegetable-food was abundant throughout the earth; and the admixture in the same localities of the bones of lions, and tigers, and wolves, and hyenas, equally proves that the numbers of the smaller herbivorous animals must have been very considerable to have furnished the means of existence to the carnivorous races. In the study, therefore, of fossil remains, we find a key to the history of the material world; and to whatever distance of time we carry back our inquiries, we have the same description of facts leading to the same conclusions. "In more recent formations, consisting often of strata of great thickness, the shells of the present seas and lakes, and the remains of animals and plants

now living on the land, are imbedded in great numbers. In those of more ancient date, many of the same species are found associated with others now extinct. These unknown kinds again are observed in strata of still higher antiquity, connected with a great number of others which have also no living representatives, till at length we arrive at periods of which the monuments contain exclusively the remains of species with many genera foreign to the present creation. But even in the oldest rocks which contain organic remains, some genera of marine animals are recognized, of which species still exist in our seas, and these are repeated at different intervals in all the intermediate groups of strata, attesting that, amidst the great variety of revolutions of which the earth's surface has been the theatre, there has never been a departure from the conditions necessary for the existence of certain unaltered types of organization*."

In surveying the various interesting facts connected with the discovery of fossil bones, and of those of the elephant in particular, we cannot doubt, wherever immense assemblages have been found, such as in the cave of Kirkdale (where hyænas predominated), and throughout Siberia, particularly on the borders of the Icy Sea (where elephants' remains are universal), that some sudden convulsion of Nature,—or some more gradual, but not less fatal change of the earth's temperature,—or, not improbably, a union of both causes,—have operated to produce this immense destruction of animal life. It has been usual to refer *all* such phenomena to the great Deluge; but it does not in the least invalidate the authority of the sacred books to believe that other causes of the destruction of life may have been called into action previously to, or simultaneously with,

* Lyell's Geology, vol. i., p. 160-1.

that great event, of which so many undoubted traces may be found. A very general belief now prevails amongst geologists, "that the climate of the northern hemisphere has undergone an important change, and that its mean annual temperature must once have resembled that now experienced within the tropics*." Shells and corals, having an affinity with species now living in warmer latitudes; remains of reptiles belonging to hot climates, such as turtles, tortoises, and crocodiles; fossil plants, such as palms of the most luxuriant growth, which could only have been produced under the influence of high temperature; and above all, the bones of the quadrupeds of the tropics; all these, which have been found in such abundance in Europe, have naturally pointed out that a great change of this nature must have taken place. It is not within our province to enter into the highly important speculations which arise out of a consideration of these interesting facts; but it may not be improper to notice that the theory of a slow change of temperature, produced by the new formation of great masses of land, has derived considerable support from the well-known facts connected with the remains of the Siberian elephants: and we may therefore not improperly introduce an extract on this subject from Mr. Lyell's valuable work.

"When we proceed to the central and northern parts of Europe, far from the modern theatres of volcanic action, and where there is no evidence of considerable inequalities of the earth's surface having been produced since the present species were in existence, our opportunities are necessarily more limited of procuring evidence from the contents of marine strata. It is only in lacustrine deposits, or in ancient river-beds, or in the sand and gravel of land-floods, or the stalagmite of ancient caverns once inhabited by wild

* Lyell's Geology, vol. i. p. 92.

beasts, that we can obtain access to proofs of the changes which animal life underwent during those periods when the marine strata already adverted to were deposited farther to the south. As far, however, as proofs from analogy can be depended upon, nothing can be more striking than the harmony of the testimony derived from the last-mentioned sources. We often find, in such situations, the remains of extinct species of quadrupeds, such as the elephant, rhinoceros, hippopotamus, hyena, and tiger, which belong to genera now confined to warmer regions. Some of the accompanying fossil species, which are identifiable with those now living, belong to animals which inhabit the same latitudes at present*. It seems, therefore, fair to infer, that the same change of climate which has caused certain Indian species of testacea to become rare, or to degenerate in size, or to disappear from the Mediterranean, and certain genera of the Subapennine hills, now exclusively tropical, to retain no longer any representatives in the adjoining seas, has also contributed to the annihilation of certain genera of land-mammifera,

* "Bones of the mammoth have been recently found at North Cliff, in the county of York, in a lacustrine formation, in which all the land and fresh-water shells, thirteen in number, have been accurately identified with species and varieties now existing in that country. Bones of the bison, an animal now inhabiting a cold or temperate climate, have also been found in the same place. That these quadrupeds, and the indigenous species of testacea associated with them, were all contemporary inhabitants of Yorkshire (a fact of the greatest importance in geology), has been established, by unequivocal proofs, by the Rev. W. V. Vernon, who caused a pit to be sunk to the depth of more than two hundred feet, through undisturbed strata, in which the remains of the mammoth were found imbedded together with the shells, in a deposit which had evidently resulted from tranquil waters.—Phil. Mag., Sept. 1829, and Jan. 1830. These facts, as Mr. Vernon observes, indicate that there has been little alteration in the temperature of these latitudes since the mammoth lived there."

which inhabited the continents at about the same epoch. The mammoth (*Elephas primigenius*), and other extinct animals of the same era, may not have required the same temperature as their living congeners within the tropics; but we may infer, that the climate was milder than that now experienced in some of the regions once inhabited by them, because, in Northern Russia, where their bones are found in immense numbers, it would be difficult, if not impossible, for such animals to obtain subsistence at present, during an arctic winter*. It has been said, that as the modern northern animals migrate, the Siberian elephant may also have shifted his place during the inclemency of the season; but this conjecture seems forced, even in regard to the elephant, and still more so when applied to the Siberian rhinoceros, found in the frozen gravel of that country; as animals of this genus are heavy and slow in their motions, and can hardly be supposed to have accomplished great periodical migrations to southern latitudes. That the mammoth, however, continued for a long time to exist in Siberia after the winters had become extremely cold, is demonstrable, since their bones are found in icebergs, and in the frozen gravel, in such abundance as could only have been supplied by many successive generations. So many skeletons

* "I fully agree with Dr. Fleming, that the kind of food which the existing species of elephant prefers will not enable us to determine, or even to offer a feasible conjecture, concerning that of the extinct species. No one, as he observes, acquainted with the gramineous character of the food of our fallow-deer, stag, or roe, would have assigned a lichen to the rein-deer. But, admitting that the trees and herbage on which the fossil elephants and rhinoceroses may have fed were not of a tropical character, but such perhaps as now grow in the temperate zone, it is still highly improbable that the vegetation which nourished these great quadrupeds was as scanty as that of our arctic regions, or that it was covered during the greater part of every year by snow."

could not have belonged to herds which lived at one time in the district, even if those northern countries had once been clothed with vegetation as luxuriant as that of an Indian jungle. But, if we suppose the change to have been extremely slow, and to have consisted, not so much in a diminution of the mean annual temperature, as in an alteration from what has been termed an 'insular' to an 'excessive' climate, from one in which the temperature of winter and summer were nearly equalized to one wherein the seasons were violently contrasted, we may, perhaps, explain the phenomenon. Siberia and other arctic regions, after having possessed for ages a more uniform temperature, may, after certain changes in the form of the arctic land, have become occasionally exposed to extremely severe winters. When these first occurred at distant intervals, the drift snow would fill the valleys, and herds of herbivorous quadrupeds would be surprised and buried in a frozen mass, as often happens to cattle and human beings, overwhelmed, in the Alpine valleys of Switzerland, by avalanches. When valleys have become filled with ice, as those of Spitzbergen, the contraction of the mass causes innumerable deep rents, such as are seen in the mer de glace on Mount Blanc. These deep crevices usually become filled with loose snow, but sometimes a thin covering is drifted across the mouth of the chasm, capable of sustaining a certain weight. Such treacherous bridges are liable to give way when heavy animals are crossing, which are then precipitated at once into the body of a glacier, which slowly descends to the sea, and becomes a floating iceberg. As bears, foxes, and deer now abound in Spitzbergen, we may confidently assume that the imbedding of animal remains in the glaciers of that island must be an event of almost annual occurrence. The conversion of drift snow into per-

manent glaciers aad icebergs, when it happens to become covered over with alluvial matter, transported by torrents and floods, is by no means a rare phenomenon in the arctic regions. During a series of milder seasons intervening between the severe winters, the mammoths may have recovered their numbers, and the rhinoceroses may have multiplied again, so that the repetition of such catastrophes may have been indefinite. The increasing cold, and greater frequency of inclement winters, would at last thin their numbers, and their final extirpation would be consummated by the rapid augmentation of other herbivorous quadrupeds, more fitted for the new climate*."

In leading the mind of the reader to the contemplation of those remote periods, whose history, dark and imperfect as it may be, is yet written in legible characters within the soil on which we tread, it may occur to some few that we deserve the reproach of the amiable and pious Cowper, against those who

> "drill and bore
> The solid earth, and from the strata there
> Extract a register, by which we learn
> That he who made it, and revealed its date
> To Moses, was mistaken in its age†."

The professors of geology have too long been open to such reproaches, partly from the misplaced zeal with which they attempted to associate an infant science with theories crudely conceived, and built up without a comprehensive knowledge of a great body of facts,—partly from the prejudices of those who fancied they saw a moral danger in the pursuit of the science itself. But the time is past, we hope for ever, when the diligent and modest student of

* Lyell's Geology, vol. i. pp. 96-9. † The Task, book iii.

Nature, in any of her departments, has to fear the same sort of spirit which Galileo had to encounter; and which still, in some Catholic states where intolerance predominates, holds the sublime discoveries of Newton as little better than atheism. Now and then, in our own days, an ignorant or a crafty controversialist attempts to repress the progress of inquiry, by proclaiming that some particular course of scientific investigation leads to irreligion; but, in her own peaceful and sober courage, true religion feels that she has nothing to fear from the utmost hardihood of research, and nothing to gain from the servile timidity of those who thus exclusively claim to be her supporters. It is not necessary—to use the words of a late periodical writer,—"to vindicate the book of Revelation by impeding the examination of the book of Nature; to justify the God of Truth by opposing the study of his works *." The reason of this growing confidence of the truly pious in the issue of the most searching inquiry, is well stated in the paper from which we have just quoted; and it is shewn that geology, especially, is not beyond the pale of the studies which ought to be pursued by those who are anxious to accumulate proofs of a Designing Intelligence:—"All are now sufficiently aware of the danger and impropriety of bringing the discovery and arrangement of facts in the physical sciences, into competition with subjects of faith. To the scriptures, true knowledge has never been hostile; nor is it possible that they, when properly interpreted, should ever be enemies to it. The latitude of interpretation, which has been always allowed by divines on particular passages, may be safely conceded to all those which are connected with the sciences. The history of the introduction of *man* upon the globe was evidently the sole object of the first chapters of Genesis,

* Quarterly Review, No. lxxxvi. p. 413.

and not any revelation of facts in natural history, or of physical events, which, being unaccommodated to the notions of the age, would have withdrawn the attention from those truths as to the moral destinies of mankind, which it was the great purpose of the inspired writer to reveal *."

Thus, then, freed from those scruples which weighed down the understanding of the geological student, even up to our own days, we may conscientiously assume that the great antiquity of the earth, written in such plain characters upon it by its Maker, is no longer to be doubted; and that man, in comparison with many other races of animated beings the creature of yesterday, is not warranted in thinking that this globe was called into existence at the same hour when he began to hold dominion over it. And why do we pursue this course of thought, when good men have existed, or may still exist, who, thinking it unsupported by revealed truth, believe that it is dissociated from natural religion?—We pursue it, first, because the evidences are so strong that our reason cannot withhold its assent;—and, secondly, because our conviction appears to conduct us onward to an enlarged idea of the wisdom and power of the Great Author of the Universe. The science of Astronomy, directing the mind to the sublimest objects, and assigning no limit to their extent in the infinite *space* which it lays open to our view, is calculated to impress us with a more exalted notion of the Creator, than if it had shewn a boundary to his creation. Assuredly, in the same manner the science of Geology, in proclaiming that since the granite pillars of the earth were laid (themselves probably the result of an all-pervading fire which was still in operation when the round mass became spheroidal), there has been crust heaped upon crust, by causes of which many are still opera-

* Quarterly Review, No. lxxxvi. p. 414.

ting, and that generations upon generations of living beings, many of whose species have utterly perished, are enclosed within those various strata,—assuredly that science, in thus conducting us back to ages which appear almost infinite to our finite capacities, must have a tendency more to raise our idea of a Presiding Power operating through boundless *time*, than if we saw that Power working, as man does, only during a few years of recorded history. The links in this chain of created beings, too, are so distinct, that we cannot fail to perceive, in their relations each to the other, the operation of the same great laws, by which the entire universe is held together, and "the most ancient heavens are fresh and strong." Nor is it the least instructive object of such contemplations to consider that man is still young upon the earth. It is his high privilege—a boon not bestowed upon any of the former races of beings—to "replenish the earth and subdue it;"—but the advantages of this great gift could not be fully attained till the progressive experience of the social state had taught him the widest range of his supremacy. Uncivilized communities are as powerless as the beasts of the field, to repair the waste of animal life. The elephant tramples down forests, but he does not plant a single tree;—and the solitary savage starves amidst plains as large as kingdoms, without sowing a grain of corn to afford him abundance. But even civilized communities have much to attain before the earth can be held to be perfectly replenished and subdued. How large a proportion of the most fertile countries remains uncultivated—how many marshes are there to be drained, how many wastes to be tilled! With all her great resources, how many unknown regions has commerce yet to visit, to draw from them new products of the soil, or, by spreading the arts of industry amongst the uncultivated, to lend a new value

to the intercourse which the cultivated establish, by carrying the principle of exchange as far as it will reach. The complete civilization of the earth must necessarily be the work of ages;—and it may be retarded, as it has already been, by ignorance and tyranny. But while the nations who are blessed with the largest shares of freedom and knowledge resolve not to lose those inestimable possessions, the great work must go forward; and it is encouraging to know, and honourable not to shrink from the responsibility attached to the knowledge, that the destinies of man throughout the whole world are not lightly advanced, when a maritime and commercial country like our own determines to obtain for herself the fullest possible amount of the benefits of sound education and just government.

We have thus traced the history of the Elephant, as he is seen in our modern menageries,—as he is found in India and Africa in a state of nature,—as he is subjected by art to the dominion of man in the one country, or hunted to the death in the other,—as he is trained in the East for domestic use, for exhibitions of cruelty, or for purposes of pageantry,—or as he is still used in the wars of modern Asia. We have exhibited him, too, as he was formerly found in the tremendous conflicts of the Mongol conquerors,—as he was employed in warfare by Alexander and his successors, by the kings of Egypt and Syria, and by the Romans and Carthaginians. We have shewn him, also, administering to the brutal sports of ancient luxury, or supplying the material for the most splendid exercise of ancient art. Lastly, we have traced him through ages in which man had no control over his actions, and in which he probably was at the head of the existing animal world, as much by his physical power as by his sagacity. It is not the least singular part of this history, spreading over so large a period of human action, and connected with a time antecedent to man's existence, or at least his existence surrounded with the power of society, that the quadruped which appears thus to have been the first altogether in might, of the fossil races, and which still preserves this supremacy in a state of nature, should of all animals be most exposed to the destructive strength of social man. As civilization advances we find the physical force

steam engines. As long as ivory is desired in the arts, he will be encouraged to a certain extent in the uncultivated parts of Asia and Africa. But it is probable that, in a long future career of civilization during which man may subject the whole world to of the elephant less and less in request. In war, he has been superseded by cannon; in commerce, by the dominion of reason, the cost of maintaining the elephant in woods and pastures may be balanced against his comparatively small benefit to society;—and then (and it is not difficult to imagine such a period of complete civilization) the race will altogether perish, and the elephant will be known to distant generations only as the mastodon and the megatherium are recognized—by a few skeletons, put together by science, out of bones scattered up and down the earth.

The scientific character of the elephant is as follows:—

ELEPHANT.—Ελεφας, *Aristotle*—ELEPHAS, *Pliny.*

No cutting teeth; two large tusks in the upper jaw $\frac{2}{0}$. Molar $\frac{2\cdot2}{2\cdot2}$. Total 10.

The most striking characteristic of the genus, a long proboscis.

Feet round, terminated by small hoofs.

1. THE INDIAN ELEPHANT. *Elephas Indicus*, CUVIER.

Head elongated, forehead concave, ears small and angular; the laminæ of the molar teeth forming undulating parallel lines. Four hoofs on the hind feet.

Inhabits the South of Asia, particularly Ceylon.

2. The African Elephant. *Elephas Africanus*, Cuvier.

Head rounded, forehead concave, large rounded ears; the laminæ of the molar teeth forming rhomboidal lines. Three hoofs on the hind feet.

Inhabits the middle and South of Africa.

END OF THE SECOND VOLUME.

London: Printed by William Clowes, Stamford-street.

ERRATA.

In page 395 of some copies the sixth and seventh lines are placed wrong; they should be at the top of the page.